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1987 EMPLOYMENT STATUS AND DEMOGRAPHIC CHARACTERISTICS OF ACS MEMBERS

ANALYSIS OF THE AMERICAN CHEMICAL SOCIETY'S 1987 SURVEY OF SALARIES AND EMPLOYMENT

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ACKNOWLEDGEMENTS

Each year, the American Chemical Society conducts salary surveys of its members. This report is one of four presenting detailed results of the 1987 Salary and Employment Status Survey. The four reports are: *1987 Salaries of Non-academic Chemists, 1987 Salaries of Academic Chemists, 1987 Salaries of Non-academic Chemical Engineers,* and *1987 Employment Status and Demographic Characteristics of ACS Members.* A summary of the survey findings was published in the June 29, 1987 issue of *Chemical and Engineering News.*

General oversight of the survey and its analysis was provided by the ACS joint Board-Council Committee on Economic Status, headed by Valerie D. Kuck[1], and by its subcommittee on surveys, chaired by Jack G. Kay[2]. The committee expresses its gratitude to the 12,000 ACS members who provided a valuable service to the profession by completing the survey questionnaire.

Joan Burrelli and Nguyen Bailey of ACS Statistical Services, managed by John Robert Jones, conducted this year's survey and prepared this report. Dr. Burrelli wrote the summary and comment on the following pages.

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SUMMARY AND COMMENT

Joan S. Burrelli*

Employment and Unemployment

The overall unemployment rate among chemists decreased in spring 1986 to 1.1%, after having been 1.7% in 1986. The unemployment rate this year was the lowest since 1981. As unemployment decreased, the percent of chemists employed full-time increased 0.6 percentage points to 94.7% of all chemists. Each tenth of a percentage point represents approximately 90 ACS member chemists in the U.S. work force. The overall unemployment rate among chemical engineers, though higher than that for chemists, also decreased this year to 1.6% after having been 2.4% in 1986.

As the level of unemployment decreased, the percent of chemists experiencing extended periods of unemployment decreased. The length of unemployment for unemployed chemists was smaller in 1986-87 than in 1985-86. Only 22% of those unemployed had been unemployed for more than one year. In 1986 more than 30% reported they had been unemployed for more than one year.

This year, we asked two new questions on the questionnaire--"Were you unemployed at any time during the calendar year 1986?" and "If yes, how many total weeks were you not employed and actively seeking employment during calendar year 1986?" Of chemists in the labor force on March 1, 1987, 4% had been unemployed at some time during 1986. More than 20% of these reported they were unemployed for 7 to 12 months.

Unemployment rates were not uniform for all chemists. Generally speaking, unemployment rates were higher for those chemists with only BS degrees, for women, for older chemists, for blacks, and for industrial chemists.

Degree

The unemployment rate for BS chemists (1.7%) was twice that for PhD chemists (0.8%).

Gender

The unemployment rate for women was 1.5%; that for men 1.0%. This difference is partly due to the lower proportion of women holding advanced degrees. Whereas 62% of the men have PhD degrees, only 38% of the women do. But even within degree categories women experienced higher unemployment than men did. The unemployment rate for PhD women chemists was 1.3%; that for men 0.8%. Not only were women more likely than men to be unemployed, women chemists were three times as likely as men to work part-time (3.6% compared with 1.1%).

Age

Unemployment rates were highest in the 20-24 and 60-64 age categories (1.6% and 1.5% respectively).

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*Dr. Burrelli is Senior Research Associate in the ACS Office of Statistical Services.

Race/Ethnicity

The unemployment rate for black chemists (3.3%) was three times that for white chemists (1.1%). As is the case for women chemists, the higher unemployment rate for blacks is partly explained by the lower proportion of blacks holding doctorate degrees.

Type of Employer

Industrial chemists had a higher rate of unemployment (1.5%) than chemists in any other type of employment. The unemployment rate for academic chemists was 0.8%, for government chemists 0.4%, and for other nonacademic chemists 1.0%. The overall decrease in unemployment is largely a result of a decrease in unemployment among industrial chemists (down from 2.2% in 1986). The unemployment rates for academic and government chemists remained the same as last year's.

Among academics, a smaller percent of chemists held postdoctoral fellowships in 1987 (6.5%) than in 1986 (7.2%). Within industry, chemists in the specialty chemicals, basic chemicals, or pharmaceuticals industries experienced lower rates of unemployment than chemists employed in other industries. Chemists in the metals/minerals industry had the highest rate of unemployment of all industries (6.3%).

Geographic Region

Unemployment rates for chemists were lowest in the Pacific and East South Central regions of the country. Unemployment was highest for chemists living in the West North Central region.

NOTE: Results of the 1987 ACS Salary and Employment Status Survey are presented in a new format this year. Four separate reports, *1987 Salaries of Non-academic Chemists, 1987 Salaries of Academic Chemists, 1987 Salaries of Non-academic Chemical Engineers,* and *1987 Employment Status and Demographic Characteristics of ACS Members*, replace the traditional one report. Also, the format of the tables is new. If you have comments or suggestions to make concerning this format, please contact Joan Burrelli at the ACS Office of Statistical Services (202-872-4433).

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TECHNICAL NOTES

The target population of the 1987 Salary and Employment Status Survey was those ACS members who had U.S. mailing addresses, were not older than 70, and had neither student, retired, nor emeritus status. On January 31, 1987 the ACS membership totalled 129,808, of which approximately 90,000 were eligible for inclusion in the survey. A systematic sample of 20,000 members with non-chemical engineering degrees (mostly chemists) and all 6,965 members with chemical engineering degrees were selected from the target population.

The survey questionnaires were mailed to this sample of 26,965 members by bulk mail during the week of March 2-6. By the May 15 cut-off date, 11,982 (44.4%) usable questionnaires had been returned.

Members indicating a degree field of chemical engineering on the ACS membership record were oversampled this year in order to produce a separate report on chemical engineers' salaries. To make the data base from which the non-chemical engineers' tables were produced comparable to those of previous years, a random sample of 24% of those oversampled was drawn and included with the 24% sample of non-chemical engineers (the 20,000 out of approximately 83,000 non-chemical engineers eligible for inclusion in the survey).

Definitions

For the purposes of the survey analysis only, the following definitions were used:

Chemist:	A respondent who indicated a work specialty of chemistry or biochemistry (categories 2 through 14 of Question I.B. on the questionnaire) or a non-chemistry work specialty (categories 15 and 16) and a degree field of chemistry or biochemistry.
Chemical Engineer:	A respondent who indicated a work specialty of chemical engineering (category 1 of question I.B. on the questionnaire).
Unemployed:	A respondent who is unemployed and seeking employment (category 4 of Question I.D. on the questionnaire).

This report represents the respondents' principal annual salaries as of March 1, 1987. The respondent's age is given as of March 1, 1987. A respondent's state and geographic region refer to place of residence rather than place of employment. A respondent's metropolitan area refers to place of employment. A list of geographic regions and their member states is on page 9 of this report. A list of metropolitan areas and their component 3-digit ZIP codes appears on page 10.

Proportions

The proportion of people falling within a certain cell in one of the tables is a sample proportion. The sample proportion is used to make statements about the corresponding population proportion, but, of course, the sample proportion generally is not exactly equal to the population proportion. A useful estimate of the representativeness of the sample proportion is the confidence interval. Such an interval estimate is illustrated in the following statement: "We assert with 95% confidence that the population proportion is between 0.04 and 0.06." A simple but adequate formula for a confidence interval centered on the sample proportion is

$$p\ (\text{lower}) = \hat{p} - z\,[\hat{p}\,(1-\hat{p})\,/\,n]^{\frac{1}{2}}$$
$$\text{and } p\ (\text{upper}) = \hat{p} + z\,[\hat{p}\,(1-\hat{p})\,/\,n]^{\frac{1}{2}}$$

where p (lower) = lower boundary of the interval
p (upper) = upper boundary of the interval
p = the sample proportion
z = a function of the level of confidence and is found in a table of the standard normal distribution.
n = the sample size

Inspection of the formula shows that the width of the confidence interval is inversely proportional to the square root of the sample size, so that proportions derived from small samples are not as precise as ones drawn from large samples. Also, if non-respondents differ from respondents with regard to the characteristics under consideration, the formula will overstate precision because the formula is based on assumption of 100% response.

Suppose a confidence interval is required for a group containing 1900 sample members. If the sample contains 95 persons with a specific characteristic, then the numbers that go into the formula are p=95/1900= 0.05 and n=1900. For a 95% confidence interval, z is about 2. Putting these numbers into the formula above we have:

$$p\ (\text{lower}) = \hat{p} - z\,[\hat{p}\,(1-\hat{p})\,/\,n]^{\frac{1}{2}}$$
$$= 0.05 - 2\,[0.05\,(0.95)\,/1900]^{\frac{1}{2}}$$
$$= 0.05 - 0.01$$
$$= 0.04$$

$$\text{and similarly, } p\ (\text{upper}) = 0.05 + 0.01$$
$$= 0.06$$

Thus, a 95% confidence interval for p is from 4.0% to 6.0%. Although we cannot say that the population proportion is exactly 5.0%, we can be confident that it is between 4.0% and 6.0%. The 95% level of confidence means roughly that if this procedure were followed a large number of times using different samples of the same size, the population proportion would be within the calculated interval about 95% of the time.

Small Cell Count

If the number of responses in a cell of a salary table is small, then the sample salary statistics for that cell may not accurately estimate the corresponding population salary statistics. In general, a cell containing fewer than 15 responses does not provide a useful estimate of the median salary, and a cell containing fewer than 25 responses does not provide a useful estimate of the 25th or the 75th salary percentile. For this reason, cells containing fewer than 15 responses were suppressed in the tables in this book.

Median

If a sample of size n is arranged in ascending order of magnitude, the median Md is given by the ((n+1)/2)th value. If (n+1)/2 is not an integer, then the median is a weighted average of the two values whose ranks are closest to (n+1)/2.

Discrepancies Among Tables

Some pairs of tables contain totals that should be identical but are not. For example, two tables that present information about PhD respondents should show the same total number of PhDs. They might, however, show different totals. To illustrate, if one table groups the PhDs according to specialty and the other groups them according to geographic region, the totals will differ unless the number who did not indicate their specialty is the same as the number who did not indicate their geographic region.

Comparing Salaries

Often questions arise concerning B.S. chemists' salaries as compared with M.S. chemists', or women's salaries as compared with men's. These and similar comparisons require caution.

Statistical tests should be performed to determine whether observed differences in salaries of various sample groups could be mere chance occurrences resulting from peculiarities of the sample. Whether a difference in salaries is "statistically significant" depends not only on the magnitude of the difference but also on the sample size and the magnitude of the sample standard deviations.

Discussion of statistical tests of significance can be found in *Introductory Statistics for Business and Economics* by Thomas H. Wonnacott and Ronald J. Wonnacott, N.Y.: Wiley, 1984; and other similar texts.

GEOGRAPHIC REGIONS

PACIFIC

Alaska
California
Hawaii
Oregon
Washington

MOUNTAIN

Arizona
Colorado
Idaho
Montana
Nevada
New Mexico
Utah
Wyoming

WEST NORTH CENTRAL

Iowa
Kansas
Minnesota
Missouri
Nebraska
North Dakota
South Dakota

WEST SOUTH CENTRAL

Arkansas
Louisiana
Oklahoma
Texas

EAST NORTH CENTRAL

Illinois
Indiana
Michigan
Ohio
Wisconsin

EAST SOUTH CENTRAL

Alabama
Kentucky
Mississippi
Tennessee

MIDDLE ATLANTIC

New Jersey
New York
Pennsylvania

SOUTH ATLANTIC

Delaware
District of Columbia
Florida
Georgia
Maryland
North Carolina
South Carolina
Virginia
West Virginia

NEW ENGLAND

Connecticut
Maine
Massachusetts
New Hampshire
Rhode Island
Vermont

METROPOLITAN AREAS

Metropolitan Area	Three-Digit ZIP Codes
Atlanta, GA	300-303
Baltimore, MD	210-214
Boston, MA	017-024
Chicago, IL	463,464,600-606
Cincinnati, OH	410, 450-452, 470
Cleveland-Akron, OH	440-443
Columbus, OH	430-432
Dallas, TX	750-753, 760-762
Dayton, OH	453-455
Denver, CO	800-804
Detroit, MI	480-483
Houston-Beaumont, TX	770-777
Los Angeles, CA	900-918,926-928
Miami, FL	330-333
Newark, NJ	070-076,079
New York, NY	100-108,110-114,116
Philadelphia, PA	189-191, 193, 194
Pittsburgh, PA	150-152
St. Louis, MO	620-622, 630-633
San Francisco, CA	940-951
Washington, DC	200-209, 220-223

See *1987 National Five-Digit ZIP Code and Post Office Directory*, United States Postal Service, for the three-digit ZIP codes corresponding to the above metropolitan areas.

Table 1.1.1

EMPLOYMENT STATUS OF ALL RESPONDENTS
according to WORK FIELD
1987 Survey of ACS Members

WORK FIELD	EMPLOYMENT STATUS					Total
	Full-Time	Part-Time	Postdoc	Not Employed - Seeking	Not Employed - Not Seeking	
Chemical Engineering	481	11	2	8	10	512
Row Percent	93.9%	2.1%	.4%	1.6%	2.0%	100.0%
Column Percent	5.6%	7.4%	1.3%	6.2%	9.2%	5.6%
Biochemistry	580	5	36	5	7	633
Row Percent	91.6%	.8%	5.7%	.8%	1.1%	100.0%
Column Percent	6.8%	3.4%	23.2%	3.8%	6.4%	7.0%
Chemistry	6619	110	113	80	71	6993
Row Percent	94.7%	1.6%	1.6%	1.1%	1.0%	100.0%
Column Percent	77.6%	73.8%	72.9%	61.5%	65.1%	77.0%
Non-chemistry	854	23	4	37	21	939
Row Percent	90.9%	2.4%	.4%	3.9%	2.2%	100.0%
Column Percent	10.0%	15.4%	2.6%	28.5%	19.3%	10.3%
Total	8534	149	155	130	109	9077
Row Percent	94.0%	1.6%	1.7%	1.4%	1.2%	100.0%
Column Percent	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

Table 1.2.1

EMPLOYMENT STATUS OF ALL CHEMISTS
according to HIGHEST DEGREE
1987 Survey of ACS Members

HIGHEST DEGREE	EMPLOYMENT STATUS					Total
	Full-Time	Part-Time	Postdoc	Not Employed - Seeking	Not Employed - Not Seeking	
BS	1721	29	5	30	28	1813
Row Percent	94.9%	1.6%	.3%	1.7%	1.5%	100.0%
Column Percent	24.0%	25.2%	3.4%	35.3%	35.9%	23.9%
MS	1276	29	1	18	25	1349
Row Percent	94.6%	2.1%	.1%	1.3%	1.9%	100.0%
Column Percent	17.8%	25.2%	.7%	21.2%	32.1%	17.8%
PhD	4176	57	143	37	25	4438
Row Percent	94.1%	1.3%	3.2%	.8%	.6%	100.0%
Column Percent	58.2%	49.6%	96.0%	43.5%	32.1%	58.4%
Total	7173	115	149	85	78	7600
Row Percent	94.4%	1.5%	2.0%	1.1%	1.0%	100.0%
Column Percent	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

Table 1.2.2

EMPLOYMENT STATUS OF ALL CHEMISTS - MEN Only
according to HIGHEST DEGREE
1987 Survey of ACS Members

HIGHEST DEGREE	EMPLOYMENT STATUS					Total
	Full-Time	Part-Time	Postdoc	Not Employed - Seeking	Not Employed - Not Seeking	
BS	1293	19	3	24	16	1355
Row Percent	71.4%	1.0%	.2%	1.3%	.9%	74.8%
Column Percent	21.4%	27.1%	2.7%	36.4%	36.4%	21.4%
MS	979	16	1	11	12	1019
Row Percent	72.7%	1.2%	.1%	.8%	.9%	75.7%
Column Percent	16.2%	22.9%	.9%	16.7%	27.3%	16.1%
PhD	3769	35	107	31	16	3958
Row Percent	85.0%	.8%	2.4%	.7%	.4%	89.2%
Column Percent	62.4%	50.0%	96.4%	47.0%	36.4%	62.5%
Total	6041	70	111	66	44	6332
Row Percent	79.6%	.9%	1.5%	.9%	.6%	83.4%
Column Percent	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

Table 1.2.3

EMPLOYMENT STATUS OF ALL CHEMISTS - WOMEN Only
according to HIGHEST DEGREE
1987 Survey of ACS Members

HIGHEST DEGREE	EMPLOYMENT STATUS					Total
	Full-Time	Part-Time	Postdoc	Not Employed - Seeking	Not Employed - Not Seeking	
BS	426	10	2	6	12	456
Row Percent	23.5%	.6%	.1%	.3%	.7%	25.2%
Column Percent	37.9%	22.2%	5.3%	31.6%	36.4%	36.2%
MS	294	13	0	7	13	327
Row Percent	21.8%	1.0%	0.0%	.5%	1.0%	24.3%
Column Percent	26.1%	28.9%	0.0%	36.8%	39.4%	26.0%
PHD	405	22	36	6	8	477
Row Percent	9.1%	.5%	.8%	.1%	.2%	10.8%
Column Percent	36.0%	48.9%	94.7%	31.6%	24.2%	37.9%
Total	1125	45	38	19	33	1260
Row Percent	14.8%	.6%	.5%	.3%	.4%	16.6%
Column Percent	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

Table 1.3.1

EMPLOYMENT STATUS OF ALL CHEMISTS
according to AGE
1987 Survey of ACS Members

AGE	EMPLOYMENT STATUS					Total
	Full-Time	Part-Time	Postdoc	Not Employed - Seeking	Not Employed - Not Seeking	
20-24	118	1	1	2	2	124
Row Percent	95.2%	.8%	.8%	1.6%	1.6%	100.0%
Column Percent	1.7%	.9%	.7%	2.4%	2.6%	1.6%
25-29	709	7	55	7	5	783
Row Percent	90.5%	.9%	7.0%	.9%	.6%	100.0%
Column Percent	9.9%	6.2%	37.4%	8.5%	6.5%	10.4%
30-34	1226	15	59	18	7	1325
Row Percent	92.5%	1.1%	4.5%	1.4%	.5%	100.0%
Column Percent	17.2%	13.3%	40.1%	22.0%	9.1%	17.5%
35-39	1104	11	19	13	3	1150
Row Percent	96.0%	1.0%	1.7%	1.1%	.3%	100.0%
Column Percent	15.5%	9.7%	12.9%	15.9%	3.9%	15.2%
40-44	1087	9	8	4	4	1112
Row Percent	97.8%	.8%	.7%	.4%	.4%	100.0%
Column Percent	15.2%	8.0%	5.4%	4.9%	5.2%	14.7%
45-49	941	15	1	13	4	974
Row Percent	96.6%	1.5%	.1%	1.3%	.4%	100.0%
Column Percent	13.2%	13.3%	.7%	15.9%	5.2%	12.9%
50-54	707	11	2	9	8	737
Row Percent	95.9%	1.5%	.3%	1.2%	1.1%	100.0%
Column Percent	9.9%	9.7%	1.4%	11.0%	10.4%	9.7%
55-59	691	12	1	8	15	727
Row Percent	95.0%	1.7%	.1%	1.1%	2.1%	100.0%
Column Percent	9.7%	10.6%	.7%	9.8%	19.5%	9.6%
60-64	428	16	1	7	13	465
Row Percent	92.0%	3.4%	.2%	1.5%	2.8%	100.0%
Column Percent	6.0%	14.2%	.7%	8.5%	16.9%	6.1%
65-69	129	16	0	1	15	161
Row Percent	80.1%	9.9%	0.0%	.6%	9.3%	100.0%
Column Percent	1.8%	14.2%	0.0%	1.2%	19.5%	2.1%

Table 1.3.1 (Cont'd)

Age	EMPLOYMENT STATUS					Total
	Full-Time	Part-Time	Postdoc	Not Employed - Seeking	Not Employed - Not Seeking	
70 or more	4	0	0	0	1	5
Row Percent	80.0%	0.0%	0.0%	0.0%	20.0%	100.0%
Column Percent	.1%	0.0%	0.0%	0.0%	1.3%	.1%
Total	7144	113	147	82	77	/563
Row Percent	94.5%	1.5%	1.9%	1.1%	1.0%	100.0%
Column Percent	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

Table 1.4.1

EMPLOYMENT STATUS OF ALL CHEMISTS
according to RACE/ETHNICITY
1987 Survey of ACS Members

RACE/ETHNICITY	EMPLOYMENT STATUS					Total
	Full-Time	Part-Time	Postdoc	Not Employed - Seeking	Not Employed - Not Seeking	
American Indian	27	0	1	1	0	29
Row Percent	93.1%	0.0%	3.4%	3.4%	0.0%	100.0%
Column Percent	.4%	0.0%	.7%	1.2%	0.0%	.4%
Asian	405	5	26	4	1	441
Row Percent	91.8%	1.1%	5.9%	.9%	.2%	100.0%
Column Percent	5.7%	4.5%	17.4%	4.8%	1.3%	5.8%
Black	85	1	1	3	0	90
Row Percent	94.4%	1.1%	1.1%	3.3%	0.0%	100.0%
Column Percent	1.2%	.9%	.7%	3.6%	0.0%	1.2%
Hispanic	68	2	2	1	0	73
Row Percent	93.2%	2.7%	2.7%	1.4%	0.0%	100.0%
Column Percent	1.0%	1.8%	1.3%	1.2%	0.0%	1.0%
White	6526	104	119	75	75	6899
Row Percent	94.6%	1.5%	1.7%	1.1%	1.1%	100.0%
Column Percent	91.3%	92.9%	79.9%	89.3%	97.4%	91.1%
Other Race	39	0	0	0	1	40
Row Percent	97.5%	0.0%	0.0%	0.0%	2.5%	100.0%
Column Percent	.5%	0.0%	0.0%	0.0%	1.3%	.5%
Total	7150	112	149	84	77	7572
Row Percent	94.4%	1.5%	2.0%	1.1%	1.0%	100.0%
Column Percent	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

Table 1.5.1

EMPLOYMENT STATUS OF ALL CHEMISTS
according to CITIZENSHIP
1987 Survey of ACS Members

CITIZENSHIP	EMPLOYMENT STATUS					Total
	Full-Time	Part-Time	Postdoc	Not Employed - Seeking	Not Employed - Not Seeking	
U.S. Native	6328	103	109	77	73	6690
Row Percent	94.6%	1.5%	1.6%	1.2%	1.1%	100.0%
Column Percent	87.9%	90.4%	73.2%	90.6%	94.8%	87.8%
U.S. Naturalized	590	6	5	4	1	606
Row Percent	97.4%	1.0%	.8%	.7%	.2%	100.0%
Column Percent	8.2%	5.3%	3.4%	4.7%	1.3%	8.0%
U.S. Perm. Visa	242	5	14	3	2	266
Row Percent	91.0%	1.9%	5.3%	1.1%	.8%	100.0%
Column Percent	3.4%	4.4%	9.4%	3.5%	2.6%	3.5%
Other Visa	35	0	21	1	1	58
Row Percent	60.3%	0.0%	36.2%	1.7%	1.7%	100.0%
Column Percent	.5%	0.0%	14.1%	1.2%	1.3%	.8%
Total	7195	114	149	85	77	7620
Row Percent	94.4%	1.5%	2.0%	1.1%	1.0%	100.0%
Column Percent	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

Table 1.6.1

EMPLOYMENT STATUS OF ALL CHEMISTS
according to EMPLOYER
1987 Survey of ACS Members

EMPLOYER	EMPLOYMENT STATUS					Total
	Full-Time	Part-Time	Postdoc	Not Employed - Seeking	Not Employed - Not Seeking	
Industry	4404	24	10	62	43	4543
Row Percent	96.9%	.5%	.2%	1.4%	.9%	100.0%
Column Percent	62.2%	21.6%	7.0%	73.8%	59.7%	60.7%
Government	662	7	13	3	9	694
Row Percent	95.4%	1.0%	1.9%	.4%	1.3%	100.0%
Column Percent	9.4%	6.3%	9.2%	3.6%	12.5%	9.3%
Other Non-academic	371	32	7	4	3	417
Row Percent	89.0%	7.7%	1.7%	1.0%	.7%	100.0%
Column Percent	5.2%	28.8%	4.9%	4.8%	4.2%	5.6%
High School	91	3	0	1	3	98
Row Percent	92.9%	3.1%	0.0%	1.0%	3.1%	100.0%
Column Percent	1.3%	2.7%	0.0%	1.2%	4.2%	1.3%
College or University	1549	45	112	14	14	1734
Row Percent	89.3%	2.6%	6.5%	.8%	.8%	100.0%
Column Percent	21.9%	40.5%	78.9%	16.7%	19.4%	23.2%
Total	7077	111	142	84	72	7486
Row Percent	94.5%	1.5%	1.9%	1.1%	1.0%	100.0%
Column Percent	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

Table 1.6.2

EMPLOYMENT STATUS OF INDUSTRIAL CHEMISTS
according to EMPLOYER
1987 Survey of ACS Members

EMPLOYER	EMPLOYMENT STATUS					Total
	Full-Time	Part-Time	Postdoc	Not Employed - Seeking	Not Employed - Not Seeking	
Non-Manufacturing	445	4	2	9	6	466
Row Percent	95.5%	.9%	.4%	1.9%	1.3%	100.0%
Column Percent	10.1%	16.7%	20.0%	14.5%	14.0%	10.3%
Basic Chemicals	291	1	0	1	3	296
Row Percent	98.3%	.3%	0.0%	.3%	1.0%	100.0%
Column Percent	6.6%	4.2%	0.0%	1.6%	7.0%	6.5%
Specialty Chemicals	643	3	0	5	6	657
Row Percent	97.9%	.5%	0.0%	.8%	.9%	100.0%
Column Percent	14.6%	12.5%	0.0%	8.1%	14.0%	14.5%
Agricultural Chemicals	175	3	0	3	0	181
Row Percent	96.7%	1.7%	0.0%	1.7%	0.0%	100.0%
Column Percent	4.0%	12.5%	0.0%	4.8%	0.0%	4.0%
Biochemical Products	85	0	0	1	0	86
Row Percent	98.8%	0.0%	0.0%	1.2%	0.0%	100.0%
Column Percent	1.9%	0.0%	0.0%	1.6%	0.0%	1.9%
Coatings and Paints	173	3	0	4	0	180
Row Percent	96.1%	1.7%	0.0%	2.2%	0.0%	100.0%
Column Percent	3.9%	12.5%	0.0%	6.5%	0.0%	4.0%
Electronics	163	0	3	5	4	175
Row Percent	93.1%	0.0%	1.7%	2.9%	2.3%	100.0%
Column Percent	3.7%	0.0%	30.0%	8.1%	9.3%	3.9%
Food	155	1	0	0	0	156
Row Percent	99.4%	.6%	0.0%	0.0%	0.0%	100.0%
Column Percent	3.5%	4.2%	0.0%	0.0%	0.0%	3.4%
Glass, Ceramics	37	0	0	1	1	39
Row Percent	94.9%	0.0%	0.0%	2.6%	2.6%	100.0%
Column Percent	.8%	0.0%	0.0%	1.6%	2.3%	.9%
Paper	50	0	0	0	0	50
Row Percent	100.0%	0.0%	0.0%	0.0%	0.0%	100.0%
Column Percent	1.1%	0.0%	0.0%	0.0%	0.0%	1.1%

Table 1.6.2 (Cont'd)

Employer	EMPLOYMENT STATUS					Total
	Full-Time	Part-Time	Postdoc	Not Employed - Seeking	Not Employed - Not Seeking	
Petroleum/Natural Gas	208	0	0	5	4	217
Row Percent	95.9%	0.0%	0.0%	2.3%	1.8%	100.0%
Column Percent	4.7%	0.0%	0.0%	8.1%	9.3%	4.8%
Pharmaceuticals	778	5	4	3	5	795
Row Percent	97.9%	.6%	.5%	.4%	.6%	100.0%
Column Percent	17.7%	20.8%	40.0%	4.8%	11.6%	17.5%
Plastics	244	0	1	4	4	253
Row Percent	96.4%	0.0%	.4%	1.6%	1.6%	100.0%
Column Percent	5.5%	0.0%	10.0%	6.5%	9.3%	5.6%
Rubber	87	0	0	2	0	89
Row Percent	97.8%	0.0%	0.0%	2.2%	0.0%	100.0%
Column Percent	2.0%	0.0%	0.0%	3.2%	0.0%	2.0%
Soaps, Detergents	57	0	0	1	1	59
Row Percent	96.6%	0.0%	0.0%	1.7%	1.7%	100.0%
Column Percent	1.3%	0.0%	0.0%	1.6%	2.3%	1.3%
Steel or Ferrous Metals	16	0	0	1	0	17
Row Percent	94.1%	0.0%	0.0%	5.9%	0.0%	100.0%
Column Percent	.4%	0.0%	0.0%	1.6%	0.0%	.4%
Other Metals, Minerals	73	0	0	5	0	78
Row Percent	93.6%	0.0%	0.0%	6.4%	0.0%	100.0%
Column Percent	1.7%	0.0%	0.0%	8.1%	0.0%	1.7%
Other Manufactures	724	4	0	12	9	749
Row Percent	96.7%	.5%	0.0%	1.6%	1.2%	100.0%
Column Percent	16.4%	16.7%	0.0%	19.4%	20.9%	16.5%
Total	4404	24	10	62	43	4543
Row Percent	96.9%	.5%	.2%	1.4%	.9%	100.0%
Column Percent	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

Table 1.6.3

EMPLOYMENT STATUS OF ACADEMIC CHEMISTS
according to PRINCIPAL EMPLOYER
1987 Survey of ACS Members

PRINCIPAL EMPLOYER	EMPLOYMENT STATUS					Total
	Full-Time	Part-Time	Postdoc	Not Employed - Seeking	Not Employed - Not Seeking	
Medical or Professional School	172	5	13	2	1	193
Row Percent	89.1%	2.6%	6.7%	1.0%	.5%	100.0%
Column Percent	11.1%	11.1%	11.6%	14.3%	7.1%	11.1%
AA Degree	105	5	0	0	1	111
Row Percent	94.6%	4.5%	0.0%	0.0%	.9%	100.0%
Column Percent	6.8%	11.1%	0.0%	0.0%	7.1%	6.4%
BS Degree	369	10	0	0	3	382
Row Percent	96.6%	2.6%	0.0%	0.0%	.8%	100.0%
Column Percent	23.8%	22.2%	0.0%	0.0%	21.4%	22.0%
MS Degree	186	3	3	3	1	196
Row Percent	94.9%	1.5%	1.5%	1.5%	.5%	100.0%
Column Percent	12.0%	6.7%	2.7%	21.4%	7.1%	11.3%
Doctorate	717	22	96	9	8	852
Row Percent	84.2%	2.6%	11.3%	1.1%	.9%	100.0%
Column Percent	46.3%	48.9%	85.7%	64.3%	57.1%	49.1%
Total	1549	45	112	14	14	1734
Row Percent	89.3%	2.6%	6.5%	.8%	.8%	100.0%
Column Percent	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

Table 1.7.1

EMPLOYMENT STATUS OF NON-ACADEMIC CHEMISTS
according to WORK FUNCTION
1987 Survey of ACS Members

WORK FUNCTION	EMPLOYMENT STATUS					Total
	Full-Time	Part-Time	Postdoc	Not Employed - Seeking	Not Employed - Not Seeking	
R&D Mgt	840	8	1	9	7	865
Row Percent	97.1%	.9%	.1%	1.0%	.8%	100.0%
Column Percent	15.5%	12.7%	3.3%	13.0%	13.0%	15.3%
Basic Research	682	3	24	8	8	725
Row Percent	94.1%	.4%	3.3%	1.1%	1.1%	100.0%
Column Percent	12.6%	4.8%	80.0%	11.6%	14.8%	12.9%
Applied Research	1992	14	5	25	21	2057
Row Percent	96.8%	.7%	.2%	1.2%	1.0%	100.0%
Column Percent	36.7%	22.2%	16.7%	36.2%	38.9%	36.5%
General Mgt	357	3	0	2	2	364
Row Percent	98.1%	.8%	0.0%	.5%	.5%	100.0%
Column Percent	6.6%	4.8%	0.0%	2.9%	3.7%	6.5%
Marketing	252	3	0	4	2	261
Row Percent	96.6%	1.1%	0.0%	1.5%	.8%	100.0%
Column Percent	4.6%	4.8%	0.0%	5.8%	3.7%	4.6%
Production	528	3	0	7	3	541
Row Percent	97.6%	.6%	0.0%	1.3%	.6%	100.0%
Column Percent	9.7%	4.8%	0.0%	10.1%	5.6%	9.6%
Forensics	300	2	0	4	1	307
Row Percent	97.7%	.7%	0.0%	1.3%	.3%	100.0%
Column Percent	5.5%	3.2%	0.0%	5.8%	1.9%	5.4%
Writing	41	2	0	1	3	47
Row Percent	87.2%	4.3%	0.0%	2.1%	6.4%	100.0%
Column Percent	.8%	3.2%	0.0%	1.4%	5.6%	.8%
Chemistry Info Services	72	3	0	1	0	76
Row Percent	94.7%	3.9%	0.0%	1.3%	0.0%	100.0%
Column Percent	1.3%	4.8%	0.0%	1.4%	0.0%	1.3%
Computer Prog	23	2	0	1	1	27
Row Percent	85.2%	7.4%	0.0%	3.7%	3.7%	100.0%
Column Percent	.4%	3.2%	0.0%	1.4%	1.9%	.5%

Table 1.7.1 (Cont'd)

WORK FUNCTION	EMPLOYMENT STATUS					Total
	Full-Time	Part-Time	Postdoc	Not Employed - Seeking	Not Employed - Not Seeking	
Consulting	140	18	0	3	3	164
Row Percent	85.4%	11.0%	0.0%	1.8%	1.8%	100.0%
Column Percent	2.6%	28.6%	0.0%	4.3%	5.6%	2.9%
Other	195	2	0	4	3	204
Row Percent	95.6%	1.0%	0.0%	2.0%	1.5%	100.0%
Column Percent	3.6%	3.2%	0.0%	5.8%	5.6%	3.6%
Total	5422	63	30	69	54	5638
Row Percent	96.2%	1.1%	.5%	1.2%	1.0%	100.0%
Column Percent	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

Table 1.8.1

EMPLOYMENT STATUS OF ALL CHEMISTS
according to SPECIALTY
1987 Survey of ACS Members

SPECIALTY	EMPLOYMENT STATUS					Total
	Full-Time	Part-Time	Postdoc	Not Employed - Seeking	Not Employed - Not Seeking	
Biochemistry	580	5	36	5	7	633
Row Percent	91.6%	.8%	5.7%	.8%	1.1%	100.0%
Column Percent	8.1%	4.3%	24.2%	5.9%	9.0%	8.3%
General Chemistry	403	19	1	7	8	438
Row Percent	92.0%	4.3%	.2%	1.6%	1.8%	100.0%
Column Percent	5.6%	16.5%	.7%	8.2%	10.3%	5.7%
Agricultural/Food Chemistry	282	6	1	2	3	294
Row Percent	95.9%	2.0%	.3%	.7%	1.0%	100.0%
Column Percent	3.9%	5.2%	.7%	2.4%	3.8%	3.9%
Analytical Chemistry	1549	17	16	19	8	1609
Row Percent	96.3%	1.1%	1.0%	1.2%	.5%	100.0%
Column Percent	21.5%	14.8%	10.7%	22.4%	10.3%	21.1%
Clinical Chemistry	120	4	2	4	2	132
Row Percent	90.9%	3.0%	1.5%	3.0%	1.5%	100.0%
Column Percent	1.7%	3.5%	1.3%	4.7%	2.6%	1.7%
Environmental Chemistry	587	10	6	7	3	613
Row Percent	95.8%	1.6%	1.0%	1.1%	.5%	100.0%
Column Percent	8.2%	8.7%	4.0%	8.2%	3.8%	8.0%
Inorganic Chemistry	315	3	14	2	3	337
Row Percent	93.5%	.9%	4.2%	.6%	.9%	100.0%
Column Percent	4.4%	2.6%	9.4%	2.4%	3.8%	4.4%
Materials Science	368	7	7	7	10	399
Row Percent	92.2%	1.8%	1.8%	1.8%	2.5%	100.0%
Column Percent	5.1%	6.1%	4.7%	8.2%	12.8%	5.2%
Medicinal/Pharmaceutical Chemistry	467	5	9	4	3	488
Row Percent	95.7%	1.0%	1.8%	.8%	.6%	100.0%
Column Percent	6.5%	4.3%	6.0%	4.7%	3.8%	6.4%
Organic Chemistry	965	11	29	7	11	1023
Row Percent	94.3%	1.1%	2.8%	.7%	1.1%	100.0%
Column Percent	13.4%	9.6%	19.5%	8.2%	14.1%	13.4%

Table 1.8.1 (Cont'd)

Specialty	EMPLOYMENT STATUS					Total
	Full-Time	Part-Time	Postdoc	Not Employed - Seeking	Not Employed - Not Seeking	
Physical Chemistry	475	7	24	2	2	510
Row Percent	93.1%	1.4%	4.7%	.4%	.4%	100.0%
Column Percent	6.6%	6.1%	16.1%	2.4%	2.6%	6.7%
Polymer Chemistry	859	12	2	14	10	897
Row Percent	95.8%	1.3%	.2%	1.6%	1.1%	100.0%
Column Percent	11.9%	10.4%	1.3%	16.5%	12.8%	11.8%
Other Chemical Science	229	9	2	5	8	253
Row Percent	90.5%	3.6%	.8%	2.0%	3.2%	100.0%
Column Percent	3.2%	7.8%	1.3%	5.9%	10.3%	3.3%
Total	7199	115	149	85	78	7626
Row Percent	94.4%	1.5%	2.0%	1.1%	1.0%	100.0%
Column Percent	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

Table 1.9.1

EMPLOYMENT STATUS OF ALL CHEMISTS
according to GEOGRAPHIC REGION
1987 Survey of ACS Members

GEOGRAPHIC REGION	EMPLOYMENT STATUS					Total
	Full-Time	Part-Time	Postdoc	Not Employed - Seeking	Not Employed - Not Seeking	
Pacific	725	13	22	7	8	775
Row Percent	93.5%	1.7%	2.8%	.9%	1.0%	100.0%
Column Percent	10.2%	11.7%	14.9%	8.3%	11.0%	10.3%
Mountain	265	6	12	5	3	291
Row Percent	91.1%	2.1%	4.1%	1.7%	1.0%	100.0%
Column Percent	3.7%	5.4%	8.1%	6.0%	4.1%	3.9%
West North Central	445	8	6	11	2	472
Row Percent	94.3%	1.7%	1.3%	2.3%	.4%	100.0%
Column Percent	6.3%	7.2%	4.1%	13.1%	2.7%	6.3%
West South Central	525	8	11	8	6	558
Row Percent	94.1%	1.4%	2.0%	1.4%	1.1%	100.0%
Column Percent	7.4%	7.2%	7.4%	9.5%	8.2%	7.4%
East North Central	1583	28	23	16	16	1666
Row Percent	95.0%	1.7%	1.4%	1.0%	1.0%	100.0%
Column Percent	22.3%	25.2%	15.5%	19.0%	21.9%	22.1%
East South Central	269	2	2	1	2	276
Row Percent	97.5%	.7%	.7%	.4%	.7%	100.0%
Column Percent	3.8%	1.8%	1.4%	1.2%	2.7%	3.7%
Middle Atlantic	1660	21	28	20	16	1745
Row Percent	95.1%	1.2%	1.6%	1.1%	.9%	100.0%
Column Percent	23.4%	18.9%	18.9%	23.8%	21.9%	23.2%
South Atlantic	1147	19	28	12	11	1217
Row Percent	94.2%	1.6%	2.3%	1.0%	.9%	100.0%
Column Percent	16.1%	17.1%	18.9%	14.3%	15.1%	16.2%
New England	489	6	16	4	9	524
Row Percent	93.3%	1.1%	3.1%	.8%	1.7%	100.0%
Column Percent	6.9%	5.4%	10.8%	4.8%	12.3%	7.0%
Total	7108	111	148	84	73	7524
Row Percent	94.5%	1.5%	2.0%	1.1%	1.0%	100.0%
Column Percent	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

Table 2.1.1

LENGTH OF UNEMPLOYMENT OF CHEMISTS UNEMPLOYED on MARCH 1, 1987
according to HIGHEST DEGREE
1987 Survey of ACS Members

HIGHEST DEGREE	LENGTH OF UNEMPLOYMENT					Total
	Less Than 1 Month	1-3 Months	4-6 Months	7-12 Months	More Than 1 Year	
BS	3	9	5	3	8	28
Row Percent	10.7%	32.1%	17.9%	10.7%	28.6%	100.0%
Column Percent	33.3%	40.9%	31.3%	16.7%	44.4%	33.7%
MS	1	6	6	2	3	18
Row Percent	5.6%	33.3%	33.3%	11.1%	16.7%	100.0%
Column Percent	11.1%	27.3%	37.5%	11.1%	16.7%	21.7%
PhD	5	7	5	13	7	37
Row Percent	13.5%	18.9%	13.5%	35.1%	18.9%	100.0%
Column Percent	55.6%	31.8%	31.3%	72.2%	38.9%	44.6%
Total	9	22	16	18	18	83
Row Percent	10.8%	26.5%	19.3%	21.7%	21.7%	100.0%
Column Percent	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

Table 2.1.2

LENGTH OF UNEMPLOYMENT OF MEN CHEMISTS UNEMPLOYED on MARCH 1, 1987
according to HIGHEST DEGREE
1987 Survey of ACS Members

HIGHEST DEGREE	LENGTH OF UNEMPLOYMENT					Total
	Less Than 1 Month	1-3 Months	4-6 Months	7-12 Months	More Than 1 Year	
BS	3	6	4	3	7	23
Row Percent	10.7%	21.4%	14.3%	10.7%	25.0%	82.1%
Column Percent	37.5%	37.5%	33.3%	18.8%	53.8%	35.4%
MS	1	4	4	1	1	11
Row Percent	5.6%	22.2%	22.2%	5.6%	5.6%	61.1%
Column Percent	12.5%	25.0%	33.3%	6.3%	7.7%	16.9%
PhD	4	6	4	12	5	31
Row Percent	10.8%	16.2%	10.8%	32.4%	13.5%	83.8%
Column Percent	50.0%	37.5%	33.3%	75.0%	38.5%	47.7%
Total	8	16	12	16	13	65
Row Percent	9.6%	19.3%	14.5%	19.3%	15.7%	78.3%
Column Percent	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

Table 2.1.3

LENGTH OF UNEMPLOYMENT OF WOMEN CHEMISTS UNEMPLOYED on MARCH 1, 1987
according to HIGHEST DEGREE
1987 Survey of ACS Members

HIGHEST DEGREE	LENGTH OF UNEMPLOYMENT					Total
	Less Than 1 Month	1-3 Months	4-6 Months	7-12 Months	More Than 1 Year	
BS	0	3	1	0	1	5
Row Percent	0.0%	10.7%	3.6%	0.0%	3.6%	17.9%
Column Percent	0.0%	50.0%	25.0%	0.0%	20.0%	27.8%
MS	0	2	2	1	2	7
Row Percent	0.0%	11.1%	11.1%	5.6%	11.1%	38.9%
Column Percent	0.0%	33.3%	50.0%	50.0%	40.0%	38.9%
PhD	1	1	1	1	2	6
Row Percent	2.7%	2.7%	2.7%	2.7%	5.4%	16.2%
Column Percent	100.0%	16.7%	25.0%	50.0%	40.0%	33.3%
Total	1	6	4	2	5	18
Row Percent	1.2%	7.2%	4.8%	2.4%	6.0%	21.7%
Column Percent	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

Table 2.2.1

LENGTH OF UNEMPLOYMENT OF CHEMISTS UNEMPLOYED on MARCH 1, 1987
according to AGE
1987 Survey of ACS Members

AGE	LENGTH OF UNEMPLOYMENT					Total
	Less Than 1 Month	1-3 Months	4-6 Months	7-12 Months	More Than 1 Year	
20-24	0	2	0	0	0	2
Row Percent	0.0%	100.0%	0.0%	0.0%	0.0%	100.0%
Column Percent	0.0%	9.1%	0.0%	0.0%	0.0%	2.5%
25-29	1	3	0	2	0	6
Row Percent	16.7%	50.0%	0.0%	33.3%	0.0%	100.0%
Column Percent	11.1%	13.6%	0.0%	12.5%	0.0%	7.5%
30-34	1	4	4	3	5	17
Row Percent	5.9%	23.5%	23.5%	17.6%	29.4%	100.0%
Column Percent	11.1%	18.2%	26.7%	18.8%	27.8%	21.3%
35-39	2	3	2	4	2	13
Row Percent	15.4%	23.1%	15.4%	30.8%	15.4%	100.0%
Column Percent	22.2%	13.6%	13.3%	25.0%	11.1%	16.3%
40-44	1	1	1	1	0	4
Row Percent	25.0%	25.0%	25.0%	25.0%	0.0%	100.0%
Column Percent	11.1%	4.5%	6.7%	6.3%	0.0%	5.0%
45-49	0	3	2	4	4	13
Row Percent	0.0%	23.1%	15.4%	30.8%	30.8%	100.0%
Column Percent	0.0%	13.6%	13.3%	25.0%	22.2%	16.3%
40-54	2	3	3	0	1	9
Row Percent	22.2%	33.3%	33.3%	0.0%	11.1%	100.0%
Column Percent	22.2%	13.6%	20.0%	0.0%	5.6%	11.3%
55-59	1	1	2	1	3	8
Row Percent	12.5%	12.5%	25.0%	12.5%	37.5%	100.0%
Column Percent	11.1%	4.5%	13.3%	6.3%	16.7%	10.0%
60-64	1	1	1	1	3	7
Row Percent	14.3%	14.3%	14.3%	14.3%	42.9%	100.0%
Column Percent	11.1%	4.5%	6.7%	6.3%	16.7%	8.8%
65-69	0	1	0	0	0	1
Row Percent	0.0%	100.0%	0.0%	0.0%	0.0%	100.0%
Column Percent	0.0%	4.5%	0.0%	0.0%	0.0%	1.3%
Total	9	22	15	16	18	80
Row Percent	11.3%	27.5%	18.8%	20.0%	22.5%	100.0%
Column Percent	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

Table 2.3.1

LENGTH OF UNEMPLOYMENT OF CHEMISTS UNEMPLOYED on MARCH 1, 1987
according to WORK FUNCTION
1987 Survey of ACS Members

WORK FUNCTION	LENGTH OF UNEMPLOYMENT					Total
	Less Than 1 Month	1-3 Months	4-6 Months	7-12 Months	More Than 1 Year	
R&D Mgt	2	3	3	0	1	9
Row Percent	22.2%	33.3%	33.3%	0.0%	11.1%	100.0%
Column Percent	22.2%	15.8%	21.4%	0.0%	7.7%	13.4%
Basic Research	2	1	0	3	2	8
Row Percent	25.0%	12.5%	0.0%	37.5%	25.0%	100.0%
Column Percent	22.2%	5.3%	0.0%	25.0%	15.4%	11.9%
Applied Research	2	5	8	6	3	24
Row Percent	8.3%	20.8%	33.3%	25.0%	12.5%	100.0%
Column Percent	22.2%	26.3%	57.1%	50.0%	23.1%	35.8%
General Mgt	0	2	0	0	0	2
Row Percent	0.0%	100.0%	0.0%	0.0%	0.0%	100.0%
Column Percent	0.0%	10.5%	0.0%	0.0%	0.0%	3.0%
Marketing	0	1	0	0	2	3
Row Percent	0.0%	33.3%	0.0%	0.0%	66.7%	100.0%
Column Percent	0.0%	5.3%	0.0%	0.0%	15.4%	4.5%
Production	1	1	2	1	2	7
Row Percent	14.3%	14.3%	28.6%	14.3%	28.6%	100.0%
Column Percent	11.1%	5.3%	14.3%	8.3%	15.4%	10.4%
Forensics	0	3	0	1	0	4
Row Percent	0.0%	75.0%	0.0%	25.0%	0.0%	100.0%
Column Percent	0.0%	15.8%	0.0%	8.3%	0.0%	6.0%
Writing	0	0	0	0	1	1
Row Percent	0.0%	0.0%	0.0%	0.0%	100.0%	100.0%
Column Percent	0.0%	0.0%	0.0%	0.0%	7.7%	1.5%
Chemistry Info Services	0	0	1	0	0	1
Row Percent	0.0%	0.0%	100.0%	0.0%	0.0%	100.0%
Column Percent	0.0%	0.0%	7.1%	0.0%	0.0%	1.5%
Computer Prog	1	0	0	0	0	1
Row Percent	100.0%	0.0%	0.0%	0.0%	0.0%	100.0%
Column Percent	11.1%	0.0%	0.0%	0.0%	0.0%	1.5%
Consulting	1	1	0	1	0	3
Row Percent	33.3%	33.3%	0.0%	33.3%	0.0%	100.0%
Column Percent	11.1%	5.3%	0.0%	8.3%	0.0%	4.5%

Table 2.3.1 (Cont'd)

Work Function	LENGTH OF UNEMPLOYMENT					Total
	Less Than 1 Month	1-3 Months	4-6 Months	7-12 Months	More Than 1 Year	
Other	0	2	0	0	2	4
Row Percent	0.0%	50.0%	0.0%	0.0%	50.0%	100.0%
Column Percent	0.0%	10.5%	0.0%	0.0%	15.4%	6.0%
Total	9	19	14	12	13	67
Row Percent	13.4%	28.4%	20.9%	17.9%	19.4%	100.0%
Column Percent	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

Table 2.4.1

LENGTH OF UNEMPLOYMENT OF CHEMISTS UNEMPLOYED on MARCH 1, 1987
according to SPECIALTY
1987 Survey of ACS Members

WORK SPECIALTY	LENGTH OF UNEMPLOYMENT					Total
	Less Than 1 Month	1-3 Months	4-6 Months	7-12 Months	More Than 1 Year	
Biochemistry	0	1	2	1	1	5
Row Percent	0.0%	20.0%	40.0%	20.0%	20.0%	100.0%
Column Percent	0.0%	4.5%	12.5%	5.6%	5.6%	6.0%
General Chemistry	0	0	3	1	3	7
Row Percent	0.0%	0.0%	42.9%	14.3%	42.9%	100.0%
Column Percent	0.0%	0.0%	18.8%	5.6%	16.7%	8.4%
Agricultural/Food Chemistry	1	0	0	1	0	2
Row Percent	50.0%	0.0%	0.0%	50.0%	0.0%	100.0%
Column Percent	11.1%	0.0%	0.0%	5.6%	0.0%	2.4%
Analytical Chemistry	2	6	3	4	4	19
Row Percent	10.5%	31.6%	15.8%	21.1%	21.1%	100.0%
Column Percent	22.2%	27.3%	18.8%	22.2%	22.2%	22.9%
Clinical Chemistry	1	1	0	2	0	4
Row Percent	25.0%	25.0%	0.0%	50.0%	0.0%	100.0%
Column Percent	11.1%	4.5%	0.0%	11.1%	0.0%	4.8%
Environmental Chemistry	1	5	0	1	0	7
Row Percent	14.3%	71.4%	0.0%	14.3%	0.0%	100.0%
Column Percent	11.1%	22.7%	0.0%	5.6%	0.0%	8.4%
Inorganic Chemistry	0	0	1	1	0	2
Row Percent	0.0%	0.0%	50.0%	50.0%	0.0%	100.0%
Column Percent	0.0%	0.0%	6.3%	5.6%	0.0%	2.4%
Materials Science	2	2	2	0	1	7
Row Percent	28.6%	28.6%	28.6%	0.0%	14.3%	100.0%
Column Percent	22.2%	9.1%	12.5%	0.0%	5.6%	8.4%
Medicinal/Pharmaceutical Chemistry	0	2	0	1	1	4
Row Percent	0.0%	50.0%	0.0%	25.0%	25.0%	100.0%
Column Percent	0.0%	9.1%	0.0%	5.6%	5.6%	4.8%
Organic Chemistry	0	1	1	1	4	7
Row Percent	0.0%	14.3%	14.3%	14.3%	57.1%	100.0%
Column Percent	0.0%	4.5%	6.3%	5.6%	22.2%	8.4%
Physical Chemistry	0	0	0	1	1	2
Row Percent	0.0%	0.0%	0.0%	50.0%	50.0%	100.0%
Column Percent	0.0%	0.0%	0.0%	5.6%	5.6%	2.4%

Table 2.4.1 (Cont'd)

Work Specialty	LENGTH OF UNEMPLOYMENT					Total
	Less Than 1 Month	1-3 Months	4-6 Months	7-12 Months	More Than 1 Year	
Polymer Chemistry	2	4	3	2	2	13
Row Percent	15.4%	30.8%	23.1%	15.4%	15.4%	100.0%
Column Percent	22.2%	18.2%	18.8%	11.1%	11.1%	15.7%
Other Chemical Science	0	0	1	2	1	4
Row Percent	0.0%	0.0%	25.0%	50.0%	25.0%	100.0%
Column Percent	0.0%	0.0%	6.3%	11.1%	5.6%	4.8%
Total	9	22	16	18	18	83
Row Percent	10.8%	26.5%	19.3%	21.7%	21.7%	100.0%
Column Percent	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

Table 2.5.1

LENGTH OF UNEMPLOYMENT OF CHEMISTS UNEMPLOYED on MARCH 1, 1987
according to GEOGRAPHIC REGION
1987 Survey of ACS Members

GEOGRAPHIC REGION	LENGTH OF UNEMPLOYMENT					Total
	Less Than 1 Month	1-3 Months	4-6 Months	7-12 Months	More Than 1 Year	
Pacific	2	1	0	2	1	6
Row Percent	33.3%	16.7%	0.0%	33.3%	16.7%	100.0%
Column Percent	22.2%	4.5%	0.0%	11.1%	5.6%	7.3%
Mountain	1	0	0	1	2	4
Row Percent	25.0%	0.0%	0.0%	25.0%	50.0%	100.0%
Column Percent	11.1%	0.0%	0.0%	5.6%	11.1%	4.9%
West North Central	1	0	2	4	4	11
Row Percent	9.1%	0.0%	18.2%	36.4%	36.4%	100.0%
Column Percent	11.1%	0.0%	13.3%	22.2%	22.2%	13.4%
West South Central	0	2	3	2	1	8
Row Percent	0.0%	25.0%	37.5%	25.0%	12.5%	100.0%
Column Percent	0.0%	9.1%	20.0%	11.1%	5.6%	9.8%
East North Central	0	8	5	1	2	16
Row Percent	0.0%	50.0%	31.3%	6.3%	12.5%	100.0%
Column Percent	0.0%	36.4%	33.3%	5.6%	11.1%	19.5%
East South Central	0	1	0	0	0	1
Row Percent	0.0%	100.0%	0.0%	0.0%	0.0%	100.0%
Column Percent	0.0%	4.5%	0.0%	0.0%	0.0%	1.2%
Middle Atlantic	3	5	1	6	5	20
Row Percent	15.0%	25.0%	5.0%	30.0%	25.0%	100.0%
Column Percent	33.3%	22.7%	6.7%	33.3%	27.8%	24.4%
South Atlantic	0	5	2	2	3	12
Row Percent	0.0%	41.7%	16.7%	16.7%	25.0%	100.0%
Column Percent	0.0%	22.7%	13.3%	11.1%	16.7%	14.6%
New England	2	0	2	0	0	4
Row Percent	50.0%	0.0%	50.0%	0.0%	0.0%	100.0%
Column Percent	22.2%	0.0%	13.3%	0.0%	0.0%	4.9%
Total	9	22	15	18	18	82
Row Percent	11.0%	26.8%	18.3%	22.0%	22.0%	100.0%
Column Percent	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

Table 3.1.1

EMPLOYMENT STATUS OF ALL CHEMICAL ENGINEERS
according to HIGHEST DEGREE
1987 Survey of ACS Members

HIGHEST DEGREE	EMPLOYMENT STATUS					Total
	Full-Time	Part-Time	Postdoc	Not Employed - Seeking	Not Employed - Not Seeking	
BS	121	2	0	2	3	128
Row Percent	94.5%	1.6%	0.0%	1.6%	2.3%	100.0%
Column Percent	25.2%	18.2%	0.0%	25.0%	30.0%	25.0%
MS	125	2	0	2	5	134
Row Percent	93.3%	1.5%	0.0%	1.5%	3.7%	100.0%
Column Percent	26.0%	18.2%	0.0%	25.0%	50.0%	26.2%
PHD	234	7	2	4	2	249
Row Percent	94.0%	2.8%	.8%	1.6%	.8%	100.0%
Column Percent	48.8%	63.6%	100.0%	50.0%	20.0%	48.7%
Total	480	11	2	8	10	511
Row Percent	93.9%	2.2%	.4%	1.6%	2.0%	100.0%
Column Percent	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

Table 3.1.2

EMPLOYMENT STATUS OF ALL MEN CHEMICAL ENGINEERS
according to HIGHEST DEGREE and SEX
1987 Survey of ACS Members

HIGHEST DEGREE	EMPLOYMENT STATUS					Total
	Full-Time	Part-Time	Postdoc	Not Employed - Seeking	Not Employed - Not Seeking	
BS	114	2	0	2	2	120
Row Percent	89.1%	1.6%	0.0%	1.6%	1.6%	93.8%
Column Percent	24.8%	18.2%	0.0%	25.0%	25.0%	24.6%
MS	119	2	0	2	4	127
Row Percent	88.8%	1.5%	0.0%	1.5%	3.0%	94.8%
Column Percent	25.9%	18.2%	0.0%	25.0%	50.0%	26.0%
PHD	226	7	2	4	2	241
Row Percent	90.8%	2.8%	.8%	1.6%	.8%	96.8%
Column Percent	49.2%	63.6%	100.0%	50.0%	25.0%	49.4%
Total	459	11	2	8	8	488
Row Percent	89.8%	2.2%	.4%	1.6%	1.6%	95.5%
Column Percent	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

Table 3.1.3

EMPLOYMENT STATUS OF ALL WOMEN CHEMICAL ENGINEERS
according to HIGHEST DEGREE and SEX
1987 Survey of ACS Members

HIGHEST DEGREE	EMPLOYMENT STATUS					Total
	Full-Time	Part-Time	Postdoc	Not Employed - Seeking	Not Employed - Not Seeking	
BS	7	0	0	0	1	8
Row Percent	5.5%	0.0%	0.0%	0.0%	.8%	6.3%
Column Percent	33.3%	0.0%	0.0%	0.0%	50.0%	34.8%
MS	6	0	0	0	1	7
Row Percent	4.5%	0.0%	0.0%	0.0%	.7%	5.2%
Column Percent	28.6%	0.0%	0.0%	0.0%	50.0%	30.4%
PHD	8	0	0	0	0	8
Row Percent	3.2%	0.0%	0.0%	0.0%	0.0%	3.2%
Column Percent	38.1%	0.0%	0.0%	0.0%	0.0%	34.8%
Total	21	0	0	0	2	23
Row Percent	4.1%	0.0%	0.0%	0.0%	.4%	4.5%
Column Percent	100.0%	0.0%	0.0%	0.0%	100.0%	100.0%

Table 3.2.1

EMPLOYMENT STATUS OF ALL CHEMICAL ENGINEERS
according to AGE
1987 Survey of ACS Members

AGE	EMPLOYMENT STATUS					Total
	Full-Time	Part-Time	Postdoc	Not Employed - Seeking	Not Employed - Not Seeking	
20-24	7	0	0	0	0	7
Row Percent	100.0%	0.0%	0.0%	0.0%	0.0%	100.0%
Column Percent	1.5%	0.0%	0.0%	0.0%	0.0%	1.4%
25-29	48	0	2	0	1	51
Row Percent	94.1%	0.0%	3.9%	0.0%	2.0%	100.0%
Column Percent	10.0%	0.0%	100.0%	0.0%	10.0%	10.0%
30-34	56	1	0	0	0	57
Row Percent	98.2%	1.8%	0.0%	0.0%	0.0%	100.0%
Column Percent	11.7%	9.1%	0.0%	0.0%	0.0%	11.2%
35-39	81	1	0	0	0	82
Row Percent	98.8%	1.2%	0.0%	0.0%	0.0%	100.0%
Column Percent	16.9%	9.1%	0.0%	0.0%	0.0%	16.1%
40-44	58	1	0	0	0	59
Row Percent	98.3%	1.7%	0.0%	0.0%	0.0%	100.0%
Column Percent	12.1%	9.1%	0.0%	0.0%	0.0%	11.6%
45-49	60	1	0	2	0	63
Row Percent	95.2%	1.6%	0.0%	3.2%	0.0%	100.0%
Column Percent	12.5%	9.1%	0.0%	25.0%	0.0%	12.4%
40-54	49	1	0	1	1	52
Row Percent	94.2%	1.9%	0.0%	1.9%	1.9%	100.0%
Column Percent	10.2%	9.1%	0.0%	12.5%	10.0%	10.2%
55-59	61	2	0	2	4	69
Row Percent	88.4%	2.9%	0.0%	2.9%	5.8%	100.0%
Column Percent	12.7%	18.2%	0.0%	25.0%	40.0%	13.5%
60-64	42	2	0	2	2	48
Row Percent	87.5%	4.2%	0.0%	4.2%	4.2%	100.0%
Column Percent	8.8%	18.2%	0.0%	25.0%	20.0%	9.4%
65-69	17	2	0	1	2	22
Row Percent	77.3%	9.1%	0.0%	4.5%	9.1%	100.0%
Column Percent	3.5%	18.2%	0.0%	12.5%	20.0%	4.3%
Total	479	11	2	8	10	510
Row Percent	93.9%	2.2%	.4%	1.6%	2.0%	100.0%
Column Percent	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

Table 3.3.1

EMPLOYMENT STATUS OF ALL CHEMICAL ENGINEERS
according to RACE/ETHNICITY
1987 Survey of ACS Members

RACE/ETHNICITY	EMPLOYMENT STATUS					Total
	Full-Time	Part-Time	Postdoc	Not Employed - Seeking	Not Employed - Not Seeking	
American Indian	4	0	0	0	0	4
Row Percent	100.0%	0.0%	0.0%	0.0%	0.0%	100.0%
Column Percent	.8%	0.0%	0.0%	0.0%	0.0%	.8%
Asian	37	1	0	0	0	38
Row Percent	97.4%	2.6%	0.0%	0.0%	0.0%	100.0%
Column Percent	7.7%	9.1%	0.0%	0.0%	0.0%	7.5%
Black	2	0	0	0	0	2
Row Percent	100.0%	0.0%	0.0%	0.0%	0.0%	100.0%
Column Percent	.4%	0.0%	0.0%	0.0%	0.0%	.4%
Hispanic	1	0	0	0	0	1
Row Percent	100.0%	0.0%	0.0%	0.0%	0.0%	100.0%
Column Percent	.2%	0.0%	0.0%	0.0%	0.0%	.2%
White	428	9	2	8	10	457
Row Percent	93.7%	2.0%	.4%	1.8%	2.2%	100.0%
Column Percent	89.5%	81.8%	100.0%	100.0%	100.0%	89.8%
Other Race	6	1	0	0	0	7
Row Percent	85.7%	14.3%	0.0%	0.0%	0.0%	100.0%
Column Percent	1.3%	9.1%	0.0%	0.0%	0.0%	1.4%
Total	478	11	2	8	10	509
Row Percent	93.9%	2.2%	.4%	1.6%	2.0%	100.0%
Column Percent	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

Table 3.4.1

EMPLOYMENT STATUS OF ALL CHEMICAL ENGINEERS
according to CITIZENSHIP
1987 Survey of ACS Members

CITIZENSHIP	EMPLOYMENT STATUS					Total
	Full-Time	Part-Time	Postdoc	Not Employed - Seeking	Not Employed - Not Seeking	
U.S. Native	418	9	2	8	9	446
Row Percent	93.7%	2.0%	.4%	1.8%	2.0%	100.0%
Column Percent	86.9%	81.8%	100.0%	100.0%	90.0%	87.1%
U.S. Naturalized	37	1	0	0	1	39
Row Percent	94.9%	2.6%	0.0%	0.0%	2.6%	100.0%
Column Percent	7.7%	9.1%	0.0%	0.0%	10.0%	7.6%
U.S. Perm. Visa	23	1	0	0	0	24
Row Percent	95.8%	4.2%	0.0%	0.0%	0.0%	100.0%
Column Percent	4.8%	9.1%	0.0%	0.0%	0.0%	4.7%
Other Visa	3	0	0	0	0	3
Row Percent	100.0%	0.0%	0.0%	0.0%	0.0%	100.0%
Column Percent	.6%	0.0%	0.0%	0.0%	0.0%	.6%
Total	481	11	2	8	10	512
Row Percent	93.9%	2.1%	.4%	1.6%	2.0%	100.0%
Column Percent	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

Table 3.5.1

EMPLOYMENT STATUS OF ALL CHEMICAL ENGINEERS
according to EMPLOYER
1987 Survey of ACS Members

EMPLOYER	EMPLOYMENT STATUS					Total
	Full-Time	Part-Time	Postdoc	Not Employed - Seeking	Not Employed - Not Seeking	
Industry	340	3	1	8	8	360
Row Percent	94.4%	.8%	.3%	2.2%	2.2%	100.0%
Column Percent	72.0%	27.3%	50.0%	100.0%	88.9%	71.7%
Government	34	0	0	0	1	35
Row Percent	97.1%	0.0%	0.0%	0.0%	2.9%	100.0%
Column Percent	7.2%	0.0%	0.0%	0.0%	11.1%	7.0%
Other Non-academic	21	5	0	0	0	26
Row Percent	80.8%	19.2%	0.0%	0.0%	0.0%	100.0%
Column Percent	4.4%	45.5%	0.0%	0.0%	0.0%	5.2%
High School	2	0	0	0	0	2
Row Percent	100.0%	0.0%	0.0%	0.0%	0.0%	100.0%
Column Percent	.4%	0.0%	0.0%	0.0%	0.0%	.4%
College or University	75	3	1	0	0	79
Row Percent	94.9%	3.8%	1.3%	0.0%	0.0%	100.0%
Column Percent	15.9%	27.3%	50.0%	0.0%	0.0%	15.7%
Total	472	11	2	8	9	502
Row Percent	94.0%	2.2%	.4%	1.6%	1.8%	100.0%
Column Percent	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

Table 3.5.2

EMPLOYMENT STATUS OF INDUSTRIAL CHEMICAL ENGINEERS
according to EMPLOYER
1987 Survey of ACS Members

EMPLOYER	EMPLOYMENT STATUS					Total
	Full-Time	Part-Time	Postdoc	Not Employed - Seeking	Not Employed - Not Seeking	
Non-Manufacturing	58	1	0	1	1	61
Row Percent	95.1%	1.6%	0.0%	1.6%	1.6%	100.0%
Column Percent	17.1%	33.3%	0.0%	12.5%	12.5%	16.9%
Basic Chemicals	35	1	0	2	0	38
Row Percent	92.1%	2.6%	0.0%	5.3%	0.0%	100.0%
Column Percent	10.3%	33.3%	0.0%	25.0%	0.0%	10.6%
Specialty Chemicals	50	0	0	1	0	51
Row Percent	98.0%	0.0%	0.0%	2.0%	0.0%	100.0%
Column Percent	14.7%	0.0%	0.0%	12.5%	0.0%	14.2%
Agricultural Chemicals	3	0	0	0	0	3
Row Percent	100.0%	0.0%	0.0%	0.0%	0.0%	100.0%
Column Percent	.9%	0.0%	0.0%	0.0%	0.0%	.8%
Biochemical Products	2	0	0	0	0	2
Row Percent	100.0%	0.0%	0.0%	0.0%	0.0%	100.0%
Column Percent	.6%	0.0%	0.0%	0.0%	0.0%	.6%
Coatings and Paints	9	0	0	0	0	9
Row Percent	100.0%	0.0%	0.0%	0.0%	0.0%	100.0%
Column Percent	2.6%	0.0%	0.0%	0.0%	0.0%	2.5%
Electronics	14	0	1	0	1	16
Row Percent	87.5%	0.0%	6.3%	0.0%	6.3%	100.0%
Column Percent	4.1%	0.0%	100.0%	0.0%	12.5%	4.4%
Food	4	0	0	0	0	4
Row Percent	100.0%	0.0%	0.0%	0.0%	0.0%	100.0%
Column Percent	1.2%	0.0%	0.0%	0.0%	0.0%	1.1%
Glass, Ceramics	1	0	0	0	0	1
Row Percent	100.0%	0.0%	0.0%	0.0%	0.0%	100.0%
Column Percent	.3%	0.0%	0.0%	0.0%	0.0%	.3%
Paper	8	0	0	0	0	8
Row Percent	100.0%	0.0%	0.0%	0.0%	0.0%	100.0%
Column Percent	2.4%	0.0%	0.0%	0.0%	0.0%	2.2%

Table 3.5.2 (Cont'd)

EMPLOYER	EMPLOYMENT STATUS					Total
	Full-Time	Part-Time	Postdoc	Not Employed - Seeking	Not Employed - Not Seeking	
Petroleum/Natural Gas	42	0	0	2	2	46
Row Percent	91.3%	0.0%	0.0%	4.3%	4.3%	100.0%
Column Percent	12.4%	0.0%	0.0%	25.0%	25.0%	12.8%
Pharmaceuticals	15	0	0	0	0	15
Row Percent	100.0%	0.0%	0.0%	0.0%	0.0%	100.0%
Column Percent	4.4%	0.0%	0.0%	0.0%	0.0%	4.2%
Plastics	21	0	0	0	0	21
Row Percent	100.0%	0.0%	0.0%	0.0%	0.0%	100.0%
Column Percent	6.2%	0.0%	0.0%	0.0%	0.0%	5.8%
Rubber	5	0	0	0	0	5
Row Percent	100.0%	0.0%	0.0%	0.0%	0.0%	100.0%
Column Percent	1.5%	0.0%	0.0%	0.0%	0.0%	1.4%
Soaps, Detergents	3	0	0	1	0	4
Row Percent	75.0%	0.0%	0.0%	25.0%	0.0%	100.0%
Column Percent	.9%	0.0%	0.0%	12.5%	0.0%	1.1%
Steel or Ferrous Metals	2	0	0	0	0	2
Row Percent	100.0%	0.0%	0.0%	0.0%	0.0%	100.0%
Column Percent	.6%	0.0%	0.0%	0.0%	0.0%	.6%
Other Metals, Minerals	6	0	0	1	0	7
Row Percent	85.7%	0.0%	0.0%	14.3%	0.0%	100.0%
Column Percent	1.8%	0.0%	0.0%	12.5%	0.0%	1.9%
Other Manufactures	62	1	0	0	4	67
Row Percent	92.5%	1.5%	0.0%	0.0%	6.0%	100.0%
Column Percent	18.2%	33.3%	0.0%	0.0%	50.0%	18.6%
Total	340	3	1	8	8	360
Row Percent	94.4%	.8%	.3%	2.2%	2.2%	100.0%
Column Percent	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

Table 3.5.3

EMPLOYMENT STATUS OF ACADEMIC CHEMICAL ENGINEERS
according to PRINCIPAL EMPLOYER
1987 Survey of ACS Members

PRINCIPAL EMPLOYER	EMPLOYMENT STATUS			Total
	Full-Time	Part-Time	Postdoc	
Medical or Professional School	3	0	0	3
Row Percent	100.0%	0.0%	0.0%	100.0%
Column Percent	4.0%	0.0%	0.0%	3.8%
BS Degree	2	0	0	2
Row Percent	100.0%	0.0%	0.0%	100.0%
Column Percent	2.7%	0.0%	0.0%	2.5%
MS Degree	7	0	0	7
Row Percent	100.0%	0.0%	0.0%	100.0%
Column Percent	9.3%	0.0%	0.0%	8.9%
Doctorate	63	3	1	67
Row Percent	94.0%	4.5%	1.5%	100.0%
Column Percent	84.0%	100.0%	100.0%	84.8%
Total	75	3	1	79
Row Percent	94.9%	3.8%	1.3%	100.0%
Column Percent	100.0%	100.0%	100.0%	100.0%

Table 3.6.1

EMPLOYMENT STATUS OF NON-ACADEMIC CHEMICAL ENGINEERS
according to WORK FUNCTION
1987 Survey of ACS Members

WORK FUNCTION	EMPLOYMENT STATUS					Total
	Full-Time	Part-Time	Postdoc	Not Employed - Seeking	Not Employed - Not Seeking	
R&D Mgt	64	0	0	2	2	68
Row Percent	94.1%	0.0%	0.0%	2.9%	2.9%	100.0%
Column Percent	16.3%	0.0%	0.0%	25.0%	22.2%	16.2%
Basic Research	6	0	1	0	0	7
Row Percent	85.7%	0.0%	14.3%	0.0%	0.0%	100.0%
Column Percent	1.5%	0.0%	100.0%	0.0%	0.0%	1.7%
Applied Research	135	2	0	1	6	144
Row Percent	93.8%	1.4%	0.0%	.7%	4.2%	100.0%
Column Percent	34.4%	25.0%	0.0%	12.5%	66.7%	34.4%
General Mgt	43	1	0	2	0	46
Row Percent	93.5%	2.2%	0.0%	4.3%	0.0%	100.0%
Column Percent	10.9%	12.5%	0.0%	25.0%	0.0%	11.0%
Marketing	30	0	0	0	1	31
Row Percent	96.8%	0.0%	0.0%	0.0%	3.2%	100.0%
Column Percent	7.6%	0.0%	0.0%	0.0%	11.1%	7.4%
Production	40	0	0	0	0	40
Row Percent	100.0%	0.0%	0.0%	0.0%	0.0%	100.0%
Column Percent	10.2%	0.0%	0.0%	0.0%	0.0%	9.5%
Writing	2	0	0	1	0	3
Row Percent	66.7%	0.0%	0.0%	33.3%	0.0%	100.0%
Column Percent	.5%	0.0%	0.0%	12.5%	0.0%	.7%
Chemistry Info Services	2	0	0	0	0	2
Row Percent	100.0%	0.0%	0.0%	0.0%	0.0%	100.0%
Column Percent	.5%	0.0%	0.0%	0.0%	0.0%	.5%
Computer Prog	14	0	0	0	0	14
Row Percent	100.0%	0.0%	0.0%	0.0%	0.0%	100.0%
Column Percent	3.6%	0.0%	0.0%	0.0%	0.0%	3.3%

Table 3.6.1 (Cont'd)

WORK FUNCTION	EMPLOYMENT STATUS					Total
	Full-Time	Part-Time	Postdoc	Not Employed - Seeking	Not Employed - Not Seeking	
Consulting	25	5	0	1	0	31
Row Percent	80.6%	16.1%	0.0%	3.2%	0.0%	100.0%
Column Percent	6.4%	62.5%	0.0%	12.5%	0.0%	7.4%
Other	32	0	0	1	0	33
Row Percent	97.0%	0.0%	0.0%	3.0%	0.0%	100.0%
Column Percent	8.1%	0.0%	0.0%	12.5%	0.0%	7.9%
Total	393	8	1	8	9	419
Row Percent	93.8%	1.9%	.2%	1.9%	2.1%	100.0%
Column Percent	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

Table 3.7.1

EMPLOYMENT STATUS OF ALL CHEMICAL ENGINEERS
according to GEOGRAPHIC REGION
1987 Survey of ACS Members

GEOGRAPHIC REGION	EMPLOYMENT STATUS					Total
	Full-Time	Part-Time	Postdoc	Not Employed - Seeking	Not Employed - Not Seeking	
Pacific	53	2	0	0	3	58
Row Percent	91.4%	3.4%	0.0%	0.0%	5.2%	100.0%
Column Percent	11.2%	18.2%	0.0%	0.0%	30.0%	11.5%
Mountain	12	0	0	0	1	13
Row Percent	92.3%	0.0%	0.0%	0.0%	7.7%	100.0%
Column Percent	2.5%	0.0%	0.0%	0.0%	10.0%	2.6%
West North Central	24	0	0	0	0	24
Row Percent	100.0%	0.0%	0.0%	0.0%	0.0%	100.0%
Column Percent	5.1%	0.0%	0.0%	0.0%	0.0%	4.7%
West South Central	65	3	1	2	1	72
Row Percent	90.3%	4.2%	1.4%	2.8%	1.4%	100.0%
Column Percent	13.7%	27.3%	50.0%	25.0%	10.0%	14.2%
East North Central	80	1	0	1	1	83
Row Percent	96.4%	1.2%	0.0%	1.2%	1.2%	100.0%
Column Percent	16.8%	9.1%	0.0%	12.5%	10.0%	16.4%
East South Central	16	0	0	0	1	17
Row Percent	94.1%	0.0%	0.0%	0.0%	5.9%	100.0%
Column Percent	3.4%	0.0%	0.0%	0.0%	10.0%	3.4%
Middle Atlantic	102	2	1	3	3	111
Row Percent	91.9%	1.8%	.9%	2.7%	2.7%	100.0%
Column Percent	21.5%	18.2%	50.0%	37.5%	30.0%	21.9%
South Atlantic	78	1	0	1	0	80
Row Percent	97.5%	1.3%	0.0%	1.3%	0.0%	100.0%
Column Percent	16.4%	9.1%	0.0%	12.5%	0.0%	15.8%
New England	45	2	0	1	0	48
Row Percent	93.8%	4.2%	0.0%	2.1%	0.0%	100.0%
Column Percent	9.5%	18.2%	0.0%	12.5%	0.0%	9.5%
Total	475	11	2	8	10	506
Row Percent	93.9%	2.2%	.4%	1.6%	2.0%	100.0%
Column Percent	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

Table 4.1.1

ALL RESPONDENTS
according to SEX and HIGHEST DEGREE
1987 Survey of ACS Members

	HIGHEST DEGREE			Total
SEX	Bachelors	Masters	Doctorate	
Men	1780	1435	4760	7975
Row Percent	22.3%	18.0%	59.7%	100.0%
Column Percent	76.8%	78.4%	89.6%	84.3%
Women	539	396	555	1490
Row Percent	36.2%	26.6%	37.2%	100.0%
Column Percent	23.2%	21.6%	10.4%	15.7%
Total	2319	1831	5315	9465
Row Percent	24.5%	19.3%	56.2%	100.0%
Column Percent	100.0%	100.0%	100.0%	100.0%

Table 4.2.1

ALL RESPONDENTS
according to AGE and HIGHEST DEGREE
1987 Survey of ACS Members

AGE	HIGHEST DEGREE			Total
	Bachelors	Masters	Doctorate	
20-24	128	11	2	141
Row Percent	90.8%	7.8%	1.4%	100.0%
Column Percent	5.6%	.6%	.0%	1.5%
25-29	476	195	260	931
Row Percent	51.1%	20.9%	27.9%	100.0%
Column Percent	20.7%	10.7%	4.9%	9.9%
30-34	419	301	813	1533
Row Percent	27.3%	19.6%	53.0%	100.0%
Column Percent	18.2%	16.6%	15.4%	16.3%
35-39	264	309	826	1399
Row Percent	18.9%	22.1%	59.0%	100.0%
Column Percent	11.5%	17.0%	15.7%	14.9%
40-44	186	252	928	1366
Row Percent	13.6%	18.4%	67.9%	100.0%
Column Percent	8.1%	13.9%	17.6%	14.5%
45-49	220	202	813	1235
Row Percent	17.8%	16.4%	65.8%	100.0%
Column Percent	9.6%	11.1%	15.4%	13.1%
50-54	162	179	616	957
Row Percent	16.9%	18.7%	64.4%	100.0%
Column Percent	7.0%	9.9%	11.7%	10.2%
55-59	225	199	537	961
Row Percent	23.4%	20.7%	55.9%	100.0%
Column Percent	9.8%	11.0%	10.2%	10.2%
60-64	171	118	350	639
Row Percent	26.8%	18.5%	54.8%	100.0%
Column Percent	7.4%	6.5%	6.6%	6.8%
65-70	50	50	129	229
Row Percent	21.8%	21.8%	56.3%	100.0%
Column Percent	2.2%	2.8%	2.4%	2.4%
70 or more	2	1	3	6
Row Percent	33.3%	16.7%	50.0%	100.0%
Column Percent	.1%	.1%	.1%	.1%
Total	2303	1817	5277	9397
Row Percent	24.5%	19.3%	56.2%	100.0%
Column Percent	100.0%	100.0%	100.0%	100.0%

Table 4.2.2

MEN RESPONDENTS
according to AGE and HIGHEST DEGREE
1987 Survey of ACS Members

AGE	HIGHEST DEGREE			Total
	Bachelors	Masters	Doctorate	
20-24	67	4	2	73
Row Percent	91.8%	5.5%	2.7%	100.0%
Column Percent	3.8%	.3%	.0%	.9%
25-29	313	126	196	635
Row Percent	49.3%	19.8%	30.9%	100.0%
Column Percent	17.7%	8.9%	4.1%	8.0%
30-34	308	214	678	1200
Row Percent	25.7%	17.8%	56.5%	100.0%
Column Percent	17.4%	15.0%	14.4%	15.2%
35-39	200	245	734	1179
Row Percent	17.0%	20.8%	62.3%	100.0%
Column Percent	11.3%	17.2%	15.5%	14.9%
40-44	144	198	851	1193
Row Percent	12.1%	16.6%	71.3%	100.0%
Column Percent	8.2%	13.9%	18.0%	15.1%
45-49	177	161	728	1066
Row Percent	16.6%	15.1%	68.3%	100.0%
Column Percent	10.0%	11.3%	15.4%	13.5%
50-54	150	150	583	883
Row Percent	17.0%	17.0%	66.0%	100.0%
Column Percent	8.5%	10.5%	12.3%	11.2%
55-59	205	178	508	891
Row Percent	23.0%	20.0%	57.0%	100.0%
Column Percent	11.6%	12.5%	10.8%	11.3%
60-64	154	101	321	576
Row Percent	26.7%	17.5%	55.7%	100.0%
Column Percent	8.7%	7.1%	6.8%	7.3%
65-70	47	44	120	211
Row Percent	22.3%	20.9%	56.9%	100.0%
Column Percent	2.7%	3.1%	2.5%	2.7%
70 or more	1	1	3	5
Row Percent	20.0%	20.0%	60.0%	100.0%
Column Percent	.1%	.1%	.1%	.1%

Table 4.2.3

WOMEN RESPONDENTS
according to AGE and HIGHEST DEGREE
1987 Survey of ACS Members

AGE	HIGHEST DEGREE			Total
	Bachelors	Masters	Doctorate	
20-24	61	6	0	67
Row Percent	91.0%	9.0%	0.0%	100.0%
Column Percent	11.4%	1.5%	0.0%	4.5%
25-29	163	69	64	296
Row Percent	55.1%	23.3%	21.6%	100.0%
Column Percent	30.4%	17.6%	11.6%	20.0%
30-34	111	87	135	333
Row Percent	33.3%	26.1%	40.5%	100.0%
Column Percent	20.7%	22.1%	24.5%	22.5%
35-39	64	64	92	220
Row Percent	29.1%	29.1%	41.8%	100.0%
Column Percent	11.9%	16.3%	16.7%	14.9%
40-44	42	53	76	171
Row Percent	24.6%	31.0%	44.4%	100.0%
Column Percent	7.8%	13.5%	13.8%	11.5%
45-49	43	41	84	168
Row Percent	25.6%	24.4%	50.0%	100.0%
Column Percent	8.0%	10.4%	15.2%	11.3%
50-54	12	29	33	74
Row Percent	16.2%	39.2%	44.6%	100.0%
Column Percent	2.2%	7.4%	6.0%	5.0%
55-59	20	21	29	70
Row Percent	28.6%	30.0%	41.4%	100.0%
Column Percent	3.7%	5.3%	5.3%	4.7%
60-64	17	17	29	63
Row Percent	27.0%	27.0%	46.0%	100.0%
Column Percent	3.2%	4.3%	5.3%	4.3%
65-70	3	6	9	18
Row Percent	16.7%	33.3%	50.0%	100.0%
Column Percent	.6%	1.5%	1.6%	1.2%
70 or more	1	0	0	1
Row Percent	100.0%	0.0%	0.0%	100.0%
Column Percent	.2%	0.0%	0.0%	.1%

Table 4.3.1

ALL RESPONDENTS
according to WORK SPECIALTY and HIGHEST DEGREE
1987 Survey of ACS Members

WORK SPECIALTY	HIGHEST DEGREE			Total
	Bachelors	Masters	Doctorate	
Chemical Engineering	128	135	250	513
Row Percent	25.0%	26.3%	48.7%	100.0%
Column Percent	5.8%	7.7%	4.9%	5.7%
Biochemistry	57	57	518	632
Row Percent	9.0%	9.0%	82.0%	100.0%
Column Percent	2.6%	3.3%	10.1%	7.0%
General Chemistry	102	134	202	438
Row Percent	23.3%	30.6%	46.1%	100.0%
Column Percent	4.6%	7.7%	3.9%	4.8%
Agricultural/Food Chemistry	70	59	162	291
Row Percent	24.1%	20.3%	55.7%	100.0%
Column Percent	3.2%	3.4%	3.2%	3.2%
Analytical Chemistry	604	330	675	1609
Row Percent	37.5%	20.5%	42.0%	100.0%
Column Percent	27.4%	18.9%	13.2%	17.7%
Clinical Chemistry	27	20	85	132
Row Percent	20.5%	15.2%	64.4%	100.0%
Column Percent	1.2%	1.1%	1.7%	1.5%
Environmental Chemistry	229	136	248	613
Row Percent	37.4%	22.2%	40.5%	100.0%
Column Percent	10.4%	7.8%	4.8%	6.8%
Inorganic Chemistry	51	34	252	337
Row Percent	15.1%	10.1%	74.8%	100.0%
Column Percent	2.3%	2.0%	4.9%	3.7%
Materials Science	87	94	220	401
Row Percent	21.7%	23.4%	54.9%	100.0%
Column Percent	3.9%	5.4%	4.3%	4.4%
Medicinal/Pharmaceutical Chemistry	98	97	292	487
Row Percent	20.1%	19.9%	60.0%	100.0%
Column Percent	4.4%	5.6%	5.7%	5.4%

Table 5.3.1 (Cont'd)

ALL RESPONDENTS
according to WORK SPECIALTY and HIGHEST DEGREE
1987 Survey of ACS Members

Work Specialty	HIGHEST DEGREE			Total
	Bachelors	Masters	Doctorate	
Organic Chemistry	163	133	723	1019
Row Percent	16.0%	13.1%	71.0%	100.0%
Column Percent	7.4%	7.6%	14.1%	11.2%
Physical Chemistry	34	34	443	511
Row Percent	6.7%	6.7%	86.7%	100.0%
Column Percent	1.5%	2.0%	8.7%	5.6%
Polymer Chemistry	230	157	508	895
Row Percent	25.7%	17.5%	56.8%	100.0%
Column Percent	10.4%	9.0%	9.9%	9.9%
Other Chemical Science	68	66	118	252
Row Percent	27.0%	26.2%	46.8%	100.0%
Column Percent	3.1%	3.8%	2.3%	2.8%
Business Administration	94	106	131	331
Row Percent	28.4%	32.0%	39.6%	100.0%
Column Percent	4.3%	6.1%	2.6%	3.7%
Other Non-Chemistry	164	150	292	606
Row Percent	27.1%	24.8%	48.2%	100.0%
Column Percent	7.4%	8.6%	5.7%	6.7%
Total	2206	1742	5119	9067
Row Percent	24.3%	19.2%	56.5%	100.0%
Column Percent	100.0%	100.0%	100.0%	100.0%

Table 4.4.1

ALL RESPONDENTS
according to RACE/ETHNICITY and HIGHEST DEGREE
1987 Survey of ACS Members

RACE/ETHNICITY	HIGHEST DEGREE			Total
	Bachelors	Masters	Doctorate	
American Indian	11	8	21	40
Row Percent	27.5%	20.0%	52.5%	100.0%
Column Percent	.5%	.4%	.4%	.4%
Asian	54	91	387	532
Row Percent	10.2%	17.1%	72.7%	100.0%
Column Percent	2.3%	5.0%	7.3%	5.7%
Black	39	19	49	107
Row Percent	36.4%	17.8%	45.8%	100.0%
Column Percent	1.7%	1.0%	.9%	1.1%
Hispanic	27	17	47	91
Row Percent	29.7%	18.7%	51.6%	100.0%
Column Percent	1.2%	.9%	.9%	1.0%
White	2162	1680	4738	8580
Row Percent	25.2%	19.6%	55.2%	100.0%
Column Percent	93.8%	92.0%	89.9%	91.2%
Other Race	13	12	29	54
Row Percent	24.1%	22.2%	53.7%	100.0%
Column Percent	.6%	.7%	.6%	.6%
Total	2306	1827	5271	9404
Row Percent	24.5%	19.4%	56.1%	100.0%
Column Percent	100.0%	100.0%	100.0%	100.0%

Table 4.5.1

ALL RESPONDENTS
according to RACE/ETHNICITY and SEX
1987 Survey of ACS Members

RACE/ETHNICITY	SEX		Total
	Men	Women	
American Indian	36	4	40
Row Percent	90.0%	10.0%	100.0%
Column Percent	.5%	.3%	.4%
Asian	444	91	535
Row Percent	83.0%	17.0%	100.0%
Column Percent	5.6%	6.1%	5.7%
Black	87	22	109
Row Percent	79.8%	20.2%	100.0%
Column Percent	1.1%	1.5%	1.2%
Hispanic	76	15	91
Row Percent	83.5%	16.5%	100.0%
Column Percent	1.0%	1.0%	1.0%
White	7257	1354	8611
Row Percent	84.3%	15.7%	100.0%
Column Percent	91.3%	90.8%	91.2%
Other Race	48	6	54
Row Percent	88.9%	11.1%	100.0%
Column Percent	.6%	.4%	.6%
Total	7948	1492	9440
Row Percent	84.2%	15.8%	100.0%
Column Percent	100.0%	100.0%	100.0%

Table 4.6.1

ALL RESPONDENTS
according to RACE/ETHNICITY and CITIZENSHIP
1987 Survey of ACS Members

RACE/ETHNICITY	CITIZENSHIP				Total
	U.S. Native	U.S. Naturalized	U.S. Perm. Visa	Other Visa	
American Indian	39	1	0	0	40
Row Percent	97.5%	2.5%	0.0%	0.0%	100.0%
Column Percent	.5%	.1%	0.0%	0.0%	.4%
Asian	79	317	105	34	535
Row Percent	14.8%	59.3%	19.6%	6.4%	100.0%
Column Percent	1.0%	42.7%	32.7%	48.6%	5.7%
Black	93	8	6	2	109
Row Percent	85.3%	7.3%	5.5%	1.8%	100.0%
Column Percent	1.1%	1.1%	1.9%	2.9%	1.2%
Hispanic	48	26	13	4	91
Row Percent	52.7%	28.6%	14.3%	4.4%	100.0%
Column Percent	.6%	3.5%	4.0%	5.7%	1.0%
White	8016	379	189	30	8614
Row Percent	93.1%	4.4%	2.2%	.3%	100.0%
Column Percent	96.5%	51.0%	58.9%	42.9%	91.2%
Other Race	34	12	8	0	54
Row Percent	63.0%	22.2%	14.8%	0.0%	100.0%
Column Percent	.4%	1.6%	2.5%	0.0%	.6%
Total	8309	743	321	70	9443
Row Percent	88.0%	7.9%	3.4%	.7%	100.0%
Column Percent	100.0%	100.0%	100.0%	100.0%	100.0%

Table 4.7.1

ALL RESPONDENTS
according to SELECTED METROPOLITAN AREAS and WORK SPECIALTY
1987 Survey of ACS Members

METROPOLITAN AREAS	WORK SPECIALTY										
	Chem Eng	Bio-chem	Anal. Chem	Envir Chem	Med/ Pharm	Organ-ic	Phys Chem	Poly-mer	Other Chem	Non-Chem	Total
Atlanta	5	4	14	3	2	11	4	9	22	9	83
Row Percent	6.0%	4.8%	16.9%	3.6%	2.4%	13.3%	4.8%	10.8%	26.5%	10.8%	100.0%
Column Percent	2.4%	1.4%	2.2%	1.2%	.8%	2.7%	2.0%	2.3%	3.0%	2.3%	2.2%
Baltimore	5	9	14	13	9	7	8	9	23	10	107
Row Percent	4.7%	8.4%	13.1%	12.1%	8.4%	6.5%	7.5%	8.4%	21.5%	9.3%	100.0%
Column Percent	2.4%	3.2%	2.2%	5.1%	3.8%	1.7%	3.9%	2.3%	3.1%	2.5%	2.9%
Boston	21	23	30	18	8	19	8	28	52	28	235
Row Percent	8.9%	9.8%	12.8%	7.7%	3.4%	8.1%	3.4%	11.9%	22.1%	11.9%	100.0%
Column Percent	10.0%	8.2%	4.8%	7.1%	3.4%	4.6%	3.9%	7.3%	7.1%	7.1%	6.3%
Chicago	23	32	74	28	37	47	20	43	74	36	414
Row Percent	5.6%	7.7%	17.9%	6.8%	8.9%	11.4%	4.8%	10.4%	17.9%	8.7%	100.0%
Column Percent	11.0%	11.5%	11.9%	11.0%	15.5%	11.5%	9.8%	11.2%	10.1%	9.1%	11.1%
Cincinnati	1	9	30	10	9	25	9	9	14	9	125
Row Percent	.8%	7.2%	24.0%	8.0%	7.2%	20.0%	7.2%	7.2%	11.2%	7.2%	100.0%
Column Percent	.5%	3.2%	4.8%	3.9%	3.8%	6.1%	4.4%	2.3%	1.9%	2.3%	3.4%
Cleveland-Akron	9	5	34	4	3	20	4	45	35	10	169
Row Percent	5.3%	3.0%	20.1%	2.4%	1.8%	11.8%	2.4%	26.6%	20.7%	5.9%	100.0%
Column Percent	4.3%	1.8%	5.4%	1.6%	1.3%	4.9%	2.0%	11.7%	4.8%	2.5%	4.5%
Columbus	5	9	16	10	3	10	6	16	22	12	109
Row Percent	4.6%	8.3%	14.7%	9.2%	2.8%	9.2%	5.5%	14.7%	20.2%	11.0%	100.0%
Column Percent	2.4%	3.2%	2.6%	3.9%	1.3%	2.4%	2.9%	4.2%	3.0%	3.0%	2.9%
Dallas	5	5	15	0	2	8	6	5	18	9	73
Row Percent	6.8%	6.8%	20.5%	0.0%	2.7%	11.0%	8.2%	6.8%	24.7%	12.3%	100.0%
Column Percent	2.4%	1.8%	2.4%	0.0%	.8%	2.0%	2.9%	1.3%	2.5%	2.3%	2.0%
Dayton	2	1	5	2	0	4	5	4	4	3	30
Row Percent	6.7%	3.3%	16.7%	6.7%	0.0%	13.3%	16.7%	13.3%	13.3%	10.0%	100.0%
Column Percent	1.0%	.4%	.8%	.8%	0.0%	1.0%	2.4%	1.0%	.5%	.8%	.8%
Denver	1	0	11	11	1	2	3	0	7	1	37
Row Percent	2.7%	0.0%	29.7%	29.7%	2.7%	5.4%	8.1%	0.0%	18.9%	2.7%	100.0%
Column Percent	.5%	0.0%	1.8%	4.3%	.4%	.5%	1.5%	0.0%	1.0%	.3%	1.0%
Detroit	4	6	27	14	11	20	9	29	21	8	149
Row Percent	2.7%	4.0%	18.1%	9.4%	7.4%	13.4%	6.0%	19.5%	14.1%	5.4%	100.0%
Column Percent	1.9%	2.2%	4.3%	5.5%	4.6%	4.9%	4.4%	7.6%	2.9%	2.0%	4.0%

Table 4.7.1 (Cont'd)

METROPOLITAN AREAS	WORK SPECIALTY										
	Chem Eng	Bio-chem	Anal. Chem	Envir Chem	Med/ Pharm	Organ-ic	Phys Chem	Poly-mer	Other Chem	Non-Chem	Total
Houston-Beaumont	27	11	32	9	3	22	7	31	25	15	182
Row Percent	14.8%	6.0%	17.6%	4.9%	1.6%	12.1%	3.8%	17.0%	13.7%	8.2%	100.0%
Column Percent	12.9%	3.9%	5.1%	3.5%	1.3%	5.4%	3.4%	8.1%	3.4%	3.8%	4.9%
Los Angeles	23	19	31	16	10	22	17	26	68	42	274
Row Percent	8.4%	6.9%	11.3%	5.8%	3.6%	8.0%	6.2%	9.5%	24.8%	15.3%	100.0%
Column Percent	11.0%	6.8%	5.0%	6.3%	4.2%	5.4%	8.3%	6.8%	9.3%	10.7%	7.3%
Miami	0	5	4	5	2	1	2	0	8	0	27
Row Percent	0.0%	18.5%	14.8%	18.5%	7.4%	3.7%	7.4%	0.0%	29.6%	0.0%	100.0%
Column Percent	0.0%	1.8%	.6%	2.0%	.8%	.2%	1.0%	0.0%	1.1%	0.0%	.7%
Newark	12	14	51	13	51	48	15	46	61	39	350
Row Percent	3.4%	4.0%	14.6%	3.7%	14.6%	13.7%	4.3%	13.1%	17.4%	11.1%	100.0%
Column Percent	5.7%	5.0%	8.2%	5.1%	21.4%	11.7%	7.3%	12.0%	8.3%	9.9%	9.4%
New York	6	19	24	5	8	19	10	8	37	29	165
Row Percent	3.6%	11.5%	14.5%	3.0%	4.8%	11.5%	6.1%	4.8%	22.4%	17.6%	100.0%
Column Percent	2.9%	6.8%	3.8%	2.0%	3.4%	4.6%	4.9%	2.1%	5.0%	7.4%	4.4%
Philadelphia	10	18	44	16	40	31	8	30	49	23	269
Row Percent	3.7%	6.7%	16.4%	5.9%	14.9%	11.5%	3.0%	11.2%	18.2%	8.6%	100.0%
Column Percent	4.8%	6.5%	7.1%	6.3%	16.8%	7.6%	3.9%	7.8%	6.7%	5.8%	7.2%
Pittsburgh	15	2	27	8	0	13	6	19	20	10	120
Row Percent	12.5%	1.7%	22.5%	6.7%	0.0%	10.8%	5.0%	15.8%	16.7%	8.3%	100.0%
Column Percent	7.2%	.7%	4.3%	3.1%	0.0%	3.2%	2.9%	4.9%	2.7%	2.5%	3.2%
St. Louis	10	17	17	8	7	19	1	5	31	11	126
Row Percent	7.9%	13.5%	13.5%	6.3%	5.6%	15.1%	.8%	4.0%	24.6%	8.7%	100.0%
Column Percent	4.8%	6.1%	2.7%	3.1%	2.9%	4.6%	.5%	1.3%	4.2%	2.8%	3.4%
San Francisco	15	39	76	22	14	41	30	16	73	38	364
Row Percent	4.1%	10.7%	20.9%	6.0%	3.8%	11.3%	8.2%	4.4%	20.1%	10.4%	100.0%
Column Percent	7.2%	14.0%	12.2%	8.6%	5.9%	10.0%	14.6%	4.2%	10.0%	9.6%	9.8%
Washington, DC	10	32	48	40	18	21	27	6	69	52	323
Row Percent	3.1%	9.9%	14.9%	12.4%	5.6%	6.5%	8.4%	1.9%	21.4%	16.1%	100.0%
Column Percent	4.8%	11.5%	7.7%	15.7%	7.6%	5.1%	13.2%	1.6%	9.4%	13.2%	8.7%
Total	209	279	624	255	238	410	205	384	733	394	3731
Row Percent	5.6%	7.5%	16.7%	6.8%	6.4%	11.0%	5.5%	10.3%	19.6%	10.6%	100.0%
Column Percent	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

Note: The "other chemistry" category includes general chemistry, agricultural/food chemistry, clinical chemistry, inorganic chemistry, and materials science. The "non-chemistry" category includes business administration.

Table 4.8.1

ALL RESPONDENTS
according to SELECTED METROPOLITAN AREAS and EMPLOYMENT STATUS
1987 Survey of ACS Members

METROPOLITAN AREAS	EMPLOYMENT STATUS					Total
	Full-Time	Part-Time	Postdoc	Not Employed - Seeking	Not Employed - Not Seeking	
Atlanta	84	2	1	0	0	87
Row Percent	96.6%	2.3%	1.1%	0.0%	0.0%	100.0%
Column Percent	2.3%	3.1%	1.5%	0.0%	0.0%	2.2%
Baltimore	104	3	0	0	1	108
Row Percent	96.3%	2.8%	0.0%	0.0%	.9%	100.0%
Column Percent	2.8%	4.6%	0.0%	0.0%	16.7%	2.8%
Boston	228	6	9	0	1	244
Row Percent	93.4%	2.5%	3.7%	0.0%	.4%	100.0%
Column Percent	6.1%	9.2%	13.2%	0.0%	16.7%	6.3%
Chicago	405	11	8	0	0	424
Row Percent	95.5%	2.6%	1.9%	0.0%	0.0%	100.0%
Column Percent	10.9%	16.9%	11.8%	0.0%	0.0%	10.9%
Cincinnati	124	0	2	0	0	126
Row Percent	98.4%	0.0%	1.6%	0.0%	0.0%	100.0%
Column Percent	3.3%	0.0%	2.9%	0.0%	0.0%	3.3%
Cleveland-Akron	170	5	0	0	1	176
Row Percent	96.6%	2.8%	0.0%	0.0%	.6%	100.0%
Column Percent	4.6%	7.7%	0.0%	0.0%	16.7%	4.5%
Columbus	110	1	2	0	0	113
Row Percent	97.3%	.9%	1.8%	0.0%	0.0%	100.0%
Column Percent	2.9%	1.5%	2.9%	0.0%	0.0%	2.9%
Dallas	74	2	1	0	0	77
Row Percent	96.1%	2.6%	1.3%	0.0%	0.0%	100.0%
Column Percent	2.0%	3.1%	1.5%	0.0%	0.0%	2.0%
Dayton	31	2	0	0	0	33
Row Percent	93.9%	6.1%	0.0%	0.0%	0.0%	100.0%
Column Percent	.8%	3.1%	0.0%	0.0%	0.0%	.9%
Denver	39	0	0	0	0	39
Row Percent	100.0%	0.0%	0.0%	0.0%	0.0%	100.0%
Column Percent	1.0%	0.0%	0.0%	0.0%	0.0%	1.0%
Detroit	154	1	2	0	0	157
Row Percent	98.1%	.6%	1.3%	0.0%	0.0%	100.0%
Column Percent	4.1%	1.5%	2.9%	0.0%	0.0%	4.1%

Table 4.8.1 (Cont'd)

METROPOLITAN AREAS	EMPLOYMENT STATUS					Total
	Full-Time	Part-Time	Postdoc	Not Employed - Seeking	Not Employed - Not Seeking	
Houston-Beaumont	188	1	2	1	1	193
Row Percent	97.4%	.5%	1.0%	.5%	.5%	100.0%
Column Percent	5.0%	1.5%	2.9%	33.3%	16.7%	5.0%
Los Angeles	274	5	3	0	0	282
Row Percent	97.2%	1.8%	1.1%	0.0%	0.0%	100.0%
Column Percent	7.3%	7.7%	4.4%	0.0%	0.0%	7.3%
Miami	27	0	1	0	0	28
Row Percent	96.4%	0.0%	3.6%	0.0%	0.0%	100.0%
Column Percent	.7%	0.0%	1.5%	0.0%	0.0%	.7%
Newark	356	3	5	2	1	367
Row Percent	97.0%	.8%	1.4%	.5%	.3%	100.0%
Column Percent	9.5%	4.6%	7.4%	66.7%	16.7%	9.5%
New York	164	2	4	0	0	170
Row Percent	96.5%	1.2%	2.4%	0.0%	0.0%	100.0%
Column Percent	4.4%	3.1%	5.9%	0.0%	0.0%	4.4%
Philadelphia	272	1	1	0	1	275
Row Percent	98.9%	.4%	.4%	0.0%	.4%	100.0%
Column Percent	7.3%	1.5%	1.5%	0.0%	16.7%	7.1%
Pittsburgh	119	3	3	0	0	125
Row Percent	95.2%	2.4%	2.4%	0.0%	0.0%	100.0%
Column Percent	3.2%	4.6%	4.4%	0.0%	0.0%	3.2%
St. Louis	128	3	2	0	0	133
Row Percent	96.2%	2.3%	1.5%	0.0%	0.0%	100.0%
Column Percent	3.4%	4.6%	2.9%	0.0%	0.0%	3.4%
San Francisco	360	6	13	0	0	379
Row Percent	95.0%	1.6%	3.4%	0.0%	0.0%	100.0%
Column Percent	9.6%	9.2%	19.1%	0.0%	0.0%	9.8%
Washington, DC	320	8	9	0	0	337
Row Percent	95.0%	2.4%	2.7%	0.0%	0.0%	100.0%
Column Percent	8.6%	12.3%	13.2%	0.0%	0.0%	8.7%
Total	3731	65	68	3	6	3873
Row Percent	96.3%	1.7%	1.8%	.1%	.2%	100.0%
Column Percent	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

Table 4.9.1

ALL RESPONDENTS
according to SELECTED METROPOLITAN AREAS and SEX
1987 Survey of ACS Members

METROPOLITAN AREAS	SEX		Total
	Men	Women	
Atlanta	75	12	87
Row Percent	86.2%	13.8%	100.0%
Column Percent	2.3%	1.8%	2.2%
Baltimore	97	11	108
Row Percent	89.8%	10.2%	100.0%
Column Percent	3.0%	1.7%	2.8%
Boston	200	44	244
Row Percent	82.0%	18.0%	100.0%
Column Percent	6.2%	6.7%	6.3%
Chicago	337	89	426
Row Percent	79.1%	20.9%	100.0%
Column Percent	10.4%	13.6%	11.0%
Cincinnati	113	15	128
Row Percent	88.3%	11.7%	100.0%
Column Percent	3.5%	2.3%	3.3%
Cleveland-Akron	155	21	176
Row Percent	88.1%	11.9%	100.0%
Column Percent	4.8%	3.2%	4.5%
Columbus	93	20	113
Row Percent	82.3%	17.7%	100.0%
Column Percent	2.9%	3.1%	2.9%
Dallas	64	12	76
Row Percent	84.2%	15.8%	100.0%
Column Percent	2.0%	1.8%	2.0%
Dayton	30	3	33
Row Percent	90.9%	9.1%	100.0%
Column Percent	.9%	.5%	.9%
Denver	33	6	39
Row Percent	84.6%	15.4%	100.0%
Column Percent	1.0%	.9%	1.0%
Detroit	133	24	157
Row Percent	84.7%	15.3%	100.0%
Column Percent	4.1%	3.7%	4.0%
Houston-Beaumont	170	24	194
Row Percent	87.6%	12.4%	100.0%
Column Percent	5.3%	3.7%	5.0%

Table 4.9.1 (Cont'd)

METROPOLITAN AREAS	SEX		Total
	Men	Women	
Los Angeles	242	41	283
Row Percent	85.5%	14.5%	100.0%
Column Percent	7.5%	6.3%	7.3%
Miami	22	6	28
Row Percent	78.6%	21.4%	100.0%
Column Percent	.7%	.9%	.7%
Newark	306	61	367
Row Percent	83.4%	16.6%	100.0%
Column Percent	9.5%	9.3%	9.5%
New York	131	40	171
Row Percent	76.6%	23.4%	100.0%
Column Percent	4.1%	6.1%	4.4%
Philadelphia	228	46	274
Row Percent	83.2%	16.8%	100.0%
Column Percent	7.1%	7.0%	7.1%
Pittsburgh	103	22	125
Row Percent	82.4%	17.6%	100.0%
Column Percent	3.2%	3.4%	3.2%
St. Louis	122	11	133
Row Percent	91.7%	8.3%	100.0%
Column Percent	3.8%	1.7%	3.4%
San Francisco	309	72	381
Row Percent	81.1%	18.9%	100.0%
Column Percent	9.6%	11.0%	9.8%
Washington, DC	262	75	337
Row Percent	77.7%	22.3%	100.0%
Column Percent	8.1%	11.5%	8.7%
Total	3225	655	3880
Row Percent	83.1%	16.9%	100.0%
Column Percent	100.0%	100.0%	100.0%

Table 4.10.1

ALL RESPONDENTS
according to SELECTED METROPOLITAN AREAS and AGE
1987 Survey of ACS Members

METROPOLITAN AREAS	AGE											Total
	20-24	25-29	30-34	35-39	40-44	45-49	50-54	55-59	60-64	65-69	70 or more	
Atlanta	0	13	12	19	6	14	7	8	4	3	0	86
Row Percent	0.0%	15.1%	14.0%	22.1%	7.0%	16.3%	8.1%	9.3%	4.7%	3.5%	0.0%	100.0%
Column Percent	0.0%	3.0%	1.8%	3.3%	1.1%	2.9%	1.9%	2.1%	1.6%	3.0%	0.0%	2.2%
Baltimore	0	14	24	18	15	10	10	12	4	1	0	108
Row Percent	0.0%	13.0%	22.2%	16.7%	13.9%	9.3%	9.3%	11.1%	3.7%	.9%	0.0%	100.0%
Column Percent	0.0%	3.2%	3.7%	3.1%	2.7%	2.0%	2.7%	3.1%	1.6%	1.0%	0.0%	2.8%
Boston	3	36	42	40	35	16	23	21	20	6	0	242
Row Percent	1.2%	14.9%	17.4%	16.5%	14.5%	6.6%	9.5%	8.7%	8.3%	2.5%	0.0%	100.0%
Column Percent	6.8%	8.3%	6.4%	7.0%	6.2%	3.3%	6.3%	5.5%	7.8%	6.1%	0.0%	6.3%
Chicago	9	58	87	60	58	40	34	41	27	9	0	423
Row Percent	2.1%	13.7%	20.6%	14.2%	13.7%	9.5%	8.0%	9.7%	6.4%	2.1%	0.0%	100.0%
Column Percent	20.5%	13.4%	13.3%	10.5%	10.3%	8.2%	9.3%	10.7%	10.5%	9.1%	0.0%	11.0%
Cincinnati	2	17	25	22	16	12	14	10	7	2	0	127
Row Percent	1.6%	13.4%	19.7%	17.3%	12.6%	9.4%	11.0%	7.9%	5.5%	1.6%	0.0%	100.0%
Column Percent	4.5%	3.9%	3.8%	3.8%	2.8%	2.4%	3.8%	2.6%	2.7%	2.0%	0.0%	3.3%
Cleveland-Akron	4	14	29	18	24	28	16	24	13	4	0	174
Row Percent	2.3%	8.0%	16.7%	10.3%	13.8%	16.1%	9.2%	13.8%	7.5%	2.3%	0.0%	100.0%
Column Percent	9.1%	3.2%	4.4%	3.1%	4.3%	5.7%	4.4%	6.3%	5.1%	4.0%	0.0%	4.5%
Columbus	1	9	14	21	16	21	10	13	6	2	0	113
Row Percent	.9%	8.0%	12.4%	18.6%	14.2%	18.6%	8.8%	11.5%	5.3%	1.8%	0.0%	100.0%
Column Percent	2.3%	2.1%	2.1%	3.7%	2.8%	4.3%	2.7%	3.4%	2.3%	2.0%	0.0%	2.9%
Dallas	0	6	9	18	11	14	5	4	6	2	0	75
Row Percent	0.0%	8.0%	12.0%	24.0%	14.7%	18.7%	6.7%	5.3%	8.0%	2.7%	0.0%	100.0%
Column Percent	0.0%	1.4%	1.4%	3.1%	2.0%	2.9%	1.4%	1.0%	2.3%	2.0%	0.0%	1.9%
Dayton	1	5	4	3	4	7	2	3	3	1	0	33
Row Percent	3.0%	15.2%	12.1%	9.1%	12.1%	21.2%	6.1%	9.1%	9.1%	3.0%	0.0%	100.0%
Column Percent	2.3%	1.2%	.6%	.5%	.7%	1.4%	.5%	.8%	1.2%	1.0%	0.0%	.9%
Denver	0	7	5	9	4	6	0	3	2	2	0	38
Row Percent	0.0%	18.4%	13.2%	23.7%	10.5%	15.8%	0.0%	7.9%	5.3%	5.3%	0.0%	100.0%
Column Percent	0.0%	1.6%	.8%	1.6%	.7%	1.2%	0.0%	.8%	.8%	2.0%	0.0%	1.0%
Detroit	2	16	27	23	25	29	7	17	9	2	0	157
Row Percent	1.3%	10.2%	17.2%	14.6%	15.9%	18.5%	4.5%	10.8%	5.7%	1.3%	0.0%	100.0%
Column Percent	4.5%	3.7%	4.1%	4.0%	4.4%	5.9%	1.9%	4.4%	3.5%	2.0%	0.0%	4.1%

Table 4.10.1 (Cont'd)

METROPOLITAN AREAS	AGE											Total
	20-24	25-29	30-34	35-39	40-44	45-49	50-54	55-59	60-64	65-69	70 or more	
Houston-Beaumont	0	16	35	30	30	29	21	15	12	5	0	19
Row Percent	0.0%	8.3%	18.1%	15.5%	15.5%	15.0%	10.9%	7.8%	6.2%	2.6%	0.0%	100.0
Column Percent	0.0%	3.7%	5.4%	5.2%	5.3%	5.9%	5.7%	3.9%	4.7%	5.1%	0.0%	5.0%
Los Angeles	1	35	44	32	44	33	28	28	23	14	0	282
Row Percent	.4%	12.4%	15.6%	11.3%	15.6%	11.7%	9.9%	9.9%	8.2%	5.0%	0.0%	100.0
Column Percent	2.3%	8.1%	6.7%	5.6%	7.8%	6.7%	7.7%	7.3%	9.0%	14.1%	0.0%	7.3%
Miami	0	6	8	3	2	4	2	2	1	0	0	28
Row Percent	0.0%	21.4%	28.6%	10.7%	7.1%	14.3%	7.1%	7.1%	3.6%	0.0%	0.0%	100.0
Column Percent	0.0%	1.4%	1.2%	.5%	.4%	.8%	.5%	.5%	.4%	0.0%	0.0%	.7%
Newark	9	36	57	47	53	45	40	43	23	12	0	366
Row Percent	2.5%	9.9%	15.6%	12.9%	14.5%	12.3%	11.0%	11.8%	6.3%	3.3%	0.0%	100.0%
Column Percent	20.5%	8.3%	8.7%	8.2%	9.4%	9.2%	10.9%	11.2%	9.0%	12.1%	0.0%	9.5%
New York	2	21	16	17	24	22	24	21	15	9	0	171
Row Percent	1.2%	12.3%	9.4%	9.9%	14.0%	12.9%	14.0%	12.3%	8.8%	5.3%	0.0%	100.0%
Column Percent	4.5%	4.9%	2.5%	3.0%	4.3%	4.5%	6.6%	5.5%	5.9%	9.1%	0.0%	4.4%
Philadelphia	3	30	47	35	34	34	34	33	16	4	1	271
Row Percent	1.1%	11.1%	17.3%	12.9%	12.5%	12.5%	12.5%	12.2%	5.9%	1.5%	.4%	100.0%
Column Percent	6.8%	6.9%	7.2%	6.1%	6.0%	6.9%	9.3%	8.6%	6.3%	4.0%	100.0%	7.0%
Pittsburgh	3	17	29	12	19	15	11	11	7	0	0	124
Row Percent	2.4%	13.7%	23.4%	9.7%	15.3%	12.1%	8.9%	8.9%	5.6%	0.0%	0.0%	100.0%
Column Percent	6.8%	3.9%	4.4%	2.1%	3.4%	3.1%	3.0%	2.9%	2.7%	0.0%	0.0%	3.2%
St. Louis	2	14	20	25	23	16	11	9	8	4	0	132
Row Percent	1.5%	10.6%	15.2%	18.9%	17.4%	12.1%	8.3%	6.8%	6.1%	3.0%	0.0%	100.0%
Column Percent	4.5%	3.2%	3.1%	4.4%	4.1%	3.3%	3.0%	2.3%	3.1%	4.0%	0.0%	3.4%
San Francisco	2	36	65	74	70	55	24	26	25	3	0	380
Row Percent	.5%	9.5%	17.1%	19.5%	18.4%	14.5%	6.3%	6.8%	6.6%	.8%	0.0%	100.0%
Column Percent	4.5%	8.3%	10.0%	12.9%	12.5%	11.2%	6.6%	6.8%	9.8%	3.0%	0.0%	9.8%
Washington, DC	0	26	53	47	49	40	43	39	25	14	0	336
Row Percent	0.0%	7.7%	15.8%	14.0%	14.6%	11.9%	12.8%	11.6%	7.4%	4.2%	0.0%	100.0%
Column Percent	0.0%	6.0%	8.1%	8.2%	8.7%	8.2%	11.7%	10.2%	9.8%	14.1%	0.0%	8.7%
Total	44	432	652	573	562	490	366	383	256	99	1	3858
Row Percent	1.1%	11.2%	16.9%	14.9%	14.6%	12.7%	9.5%	9.9%	6.6%	2.6%	.0%	100.0%
Column Percent	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0

Table 4.11.1

ALL RESPONDENTS
according to SELECTED METROPOLITAN AREAS and HIGHEST DEGREE
1987 Survey of ACS Members

METROPOLITAN AREAS	HIGHEST DEGREE			Total
	Bachelors	Masters	Doctorate	
Atlanta	26	15	46	87
Row Percent	29.9%	17.2%	52.9%	100.0%
Column Percent	2.9%	1.8%	2.2%	2.2%
Baltimore	42	17	48	107
Row Percent	39.3%	15.9%	44.9%	100.0%
Column Percent	4.6%	2.1%	2.2%	2.8%
Boston	59	57	127	243
Row Percent	24.3%	23.5%	52.3%	100.0%
Column Percent	6.5%	7.0%	5.9%	6.3%
Chicago	117	98	212	427
Row Percent	27.4%	23.0%	49.6%	100.0%
Column Percent	12.8%	12.0%	9.9%	11.0%
Cincinnati	33	26	69	128
Row Percent	25.8%	20.3%	53.9%	100.0%
Column Percent	3.6%	3.2%	3.2%	3.3%
Cleveland-Akron	45	46	84	175
Row Percent	25.7%	26.3%	48.0%	100.0%
Column Percent	4.9%	5.6%	3.9%	4.5%
Columbus	34	18	60	112
Row Percent	30.4%	16.1%	53.6%	100.0%
Column Percent	3.7%	2.2%	2.8%	2.9%
Dallas	21	18	38	77
Row Percent	27.3%	23.4%	49.4%	100.0%
Column Percent	2.3%	2.2%	1.8%	2.0%
Dayton	11	4	18	33
Row Percent	33.3%	12.1%	54.5%	100.0%
Column Percent	1.2%	.5%	.8%	.9%
Denver	15	8	15	38
Row Percent	39.5%	21.1%	39.5%	100.0%
Column Percent	1.6%	1.0%	.7%	1.0%
Detroit	39	28	88	155
Row Percent	25.2%	18.1%	56.8%	100.0%
Column Percent	4.3%	3.4%	4.1%	4.0%
Houston-Beaumont	32	49	112	193
Row Percent	16.6%	25.4%	58.0%	100.0%
Column Percent	3.5%	6.0%	5.2%	5.0%

Table 4.11.1 (Cont'd)

METRUPOLITAN AREAS	HIGHEST DEGREE			Total
	Bachelors	Masters	Doctorate	
Los Angeles	58	68	156	282
Row Percent	20.6%	24.1%	55.3%	100.0%
Column Percent	6.4%	8.3%	7.3%	7.3%
Miami	9	1	18	28
Row Percent	32.1%	3.6%	64.3%	100.0%
Column Percent	1.0%	.1%	.8%	.7%
Newark	74	108	184	366
Row Percent	20.2%	29.5%	50.3%	100.0%
Column Percent	8.1%	13.2%	8.6%	9.5%
New York	33	43	94	170
Row Percent	19.4%	25.3%	55.3%	100.0%
Column Percent	3.6%	5.2%	4.4%	4.4%
Philadelphia	66	40	169	275
Row Percent	24.0%	14.5%	61.5%	100.0%
Column Percent	7.2%	4.9%	7.9%	7.1%
Pittsburgh	31	26	66	123
Row Percent	25.2%	21.1%	53.7%	100.0%
Column Percent	3.4%	3.2%	3.1%	3.2%
St. Louis	29	27	76	132
Row Percent	22.0%	20.5%	57.6%	100.0%
Column Percent	3.2%	3.3%	3.6%	3.4%
San Francisco	79	61	240	380
Row Percent	20.8%	16.1%	63.2%	100.0%
Column Percent	8.7%	7.4%	11.2%	9.8%
Washington, DC	58	62	217	337
Row Percent	17.2%	18.4%	64.4%	100.0%
Column Percent	6.4%	7.6%	10.2%	8.7%
Total	911	820	2137	3868
Row Percent	23.6%	21.2%	55.2%	100.0%
Column Percent	100.0%	100.0%	100.0%	100.0%

Table 5.1.1

POSTDOCTORAL RESPONDENTS
according to CITIZENSHIP and RACE/ETHNICITY
1987 Survey of ACS Members

RACE/ETHNICITY	CITIZENSHIP				Total
	U.S. Native	U.S. Naturalized	U.S. Perm. Visa	Other Visa	
American Indian	1	0	0	0	1
Row Percent	100.0%	0.0%	0.0%	0.0%	100.0%
Column Percent	.9%	0.0%	0.0%	0.0%	.6%
Asian	3	4	4	15	26
Row Percent	11.5%	15.4%	15.4%	57.7%	100.0%
Column Percent	2.6%	66.7%	28.6%	71.4%	16.6%
Black	1	0	0	0	1
Row Percent	100.0%	0.0%	0.0%	0.0%	100.0%
Column Percent	.9%	0.0%	0.0%	0.0%	.6%
Hispanic	0	1	1	1	3
Row Percent	0.0%	33.3%	33.3%	33.3%	100.0%
Column Percent	0.0%	16.7%	7.1%	4.8%	1.9%
White	111	1	9	5	126
Row Percent	88.1%	.8%	7.1%	4.0%	100.0%
Column Percent	95.7%	16.7%	64.3%	23.8%	80.3%
Total	116	6	14	21	157
Row Percent	73.9%	3.8%	8.9%	13.4%	100.0%
Column Percent	100.0%	100.0%	100.0%	100.0%	100.0%

Table 5.2.1

POSTDOCTORAL RESPONDENTS
according to SEX and DEGREE FIELD
1987 Survey of ACS Members

DEGREE FIELD	SEX		Total
	Men	Women	
Chemical Engineering	4	0	4
Row Percent	100.0%	0.0%	100.0%
Column Percent	3.4%	0.0%	2.6%
Chemistry	109	38	147
Row Percent	74.1%	25.9%	100.0%
Column Percent	93.2%	97.4%	94.2%
Non-Chemistry	4	1	5
Row Percent	80.0%	20.0%	100.0%
Column Percent	3.4%	2.6%	3.2%
Total	117	39	156
Row Percent	75.0%	25.0%	100.0%
Column Percent	100.0%	100.0%	100.0%

Table 6.1.1

ACADEMIC RESPONDENTS
according to TENURE STATUS and AGE LEVEL
1987 Survey of ACS Members

AGE	TENURE		Total
	Yes	No	
20-24	1	7	8
Row Percent	12.5%	87.5%	100.0%
Column Percent	.1%	.9%	.4%
25-29	3	102	105
Row Percent	2.9%	97.1%	100.0%
Column Percent	.2%	12.9%	5.1%
30-34	20	236	256
Row Percent	7.8%	92.2%	100.0%
Column Percent	1.6%	29.9%	12.4%
35-39	118	158	276
Row Percent	42.8%	57.2%	100.0%
Column Percent	9.3%	20.0%	13.4%
40-44	225	100	325
Row Percent	69.2%	30.8%	100.0%
Column Percent	17.7%	12.7%	15.8%
45-49	276	74	350
Row Percent	78.9%	21.1%	100.0%
Column Percent	21.7%	9.4%	17.0%
40-54	224	45	269
Row Percent	83.3%	16.7%	100.0%
Column Percent	17.6%	5.7%	13.1%
55-59	210	36	246
Row Percent	85.4%	14.6%	100.0%
Column Percent	16.5%	4.6%	11.9%
60-64	135	21	156
Row Percent	86.5%	13.5%	100.0%
Column Percent	10.6%	2.7%	7.6%
65-69	57	10	67
Row Percent	85.1%	14.9%	100.0%
Column Percent	4.5%	1.3%	3.3%
70 or more	2	0	2
Row Percent	100.0%	0.0%	100.0%
Column Percent	.2%	0.0%	.1%
Total	1271	789	2060
Row Percent	61.7%	38.3%	100.0%
Column Percent	100.0%	100.0%	100.0%

Table 6.2.1

ACADEMIC RESPONDENTS
according to TENURE STATUS and SEX
1987 Survey of ACS Members

SEX	TENURE		Total
	Yes	No	
Men	1151	566	1717
Row Percent	67.0%	33.0%	100.0%
Column Percent	90.0%	71.1%	82.7%
Women	128	230	358
Row Percent	35.8%	64.2%	100.0%
Column Percent	10.0%	28.9%	17.3%
Total	1279	796	2075
Row Percent	61.6%	38.4%	100.0%
Column Percent	100.0%	100.0%	100.0%

Table 6.3.1

ACADEMIC RESPONDENTS
according to SEX and AGE LEVEL
1987 Survey of ACS Members

AGE	SEX		Total
	Men	Women	
20-24	2	8	10
Row Percent	20.0%	80.0%	100.0%
Column Percent	.1%	2.1%	.5%
25-29	82	43	125
Row Percent	65.6%	34.4%	100.0%
Column Percent	4.7%	11.5%	5.9%
30-34	210	58	268
Row Percent	78.4%	21.6%	100.0%
Column Percent	12.0%	15.5%	12.6%
35-39	224	61	285
Row Percent	78.6%	21.4%	100.0%
Column Percent	12.8%	16.3%	13.4%
40-44	278	52	330
Row Percent	84.2%	15.8%	100.0%
Column Percent	15.9%	13.9%	15.6%
45-49	291	66	357
Row Percent	81.5%	18.5%	100.0%
Column Percent	16.7%	17.6%	16.8%
40-54	246	26	272
Row Percent	90.4%	9.6%	100.0%
Column Percent	14.1%	6.9%	12.8%
55-59	223	26	249
Row Percent	89.6%	10.4%	100.0%
Column Percent	12.8%	6.9%	11.7%
60-64	130	27	157
Row Percent	82.8%	17.2%	100.0%
Column Percent	7.4%	7.2%	7.4%
65-69	59	8	67
Row Percent	88.1%	11.9%	100.0%
Column Percent	3.4%	2.1%	3.2%
70 or more	2	0	2
Row Percent	100.0%	0.0%	100.0%
Column Percent	.1%	0.0%	.1%
Total	1747	375	2122
Row Percent	82.3%	17.7%	100.0%
Column Percent	100.0%	100.0%	100.0%

Table 6.4.1

ACADEMIC RESPONDENTS
according to SEX and HIGHEST DEGREE
1987 Survey of ACS Members

HIGHEST DEGREE	SEX		Total
	Men	Women	
Bachelors	49	33	82
Row Percent	59.8%	40.2%	100.0%
Column Percent	2.8%	8.7%	3.8%
Masters	144	94	238
Row Percent	60.5%	39.5%	100.0%
Column Percent	8.2%	24.8%	11.2%
Doctorate	1560	252	1812
Row Percent	86.1%	13.9%	100.0%
Column Percent	89.0%	66.5%	85.0%
Total	1753	379	2132
Row Percent	82.2%	17.8%	100.0%
Column Percent	100.0%	100.0%	100.0%

Table 6.5.1

ACADEMIC RESPONDENTS
according to SEX and RACE/ETHNICITY
1987 Survey of ACS Members

RACE/ETHNICITY	SEX		Total
	Men	Women	
American Indian	11	0	11
Row Percent	100.0%	0.0%	100.0%
Column Percent	.6%	0.0%	.5%
Asian	97	9	106
Row Percent	91.5%	8.5%	100.0%
Column Percent	5.5%	2.4%	5.0%
Black	18	6	24
Row Percent	75.0%	25.0%	100.0%
Column Percent	1.0%	1.6%	1.1%
Hispanic	16	1	17
Row Percent	94.1%	5.9%	100.0%
Column Percent	.9%	.3%	.8%
White	1597	361	1958
Row Percent	81.6%	18.4%	100.0%
Column Percent	91.3%	95.5%	92.0%
Other Race	11	1	12
Row Percent	91.7%	8.3%	100.0%
Column Percent	.6%	.3%	.6%
Total	1750	378	2128
Row Percent	82.2%	17.8%	100.0%
Column Percent	100.0%	100.0%	100.0%

Table 6.6.1

ACADEMIC RESPONDENTS
according to CITIZENSHIP and RACE/ETHNICITY
1987 Survey of ACS Members

RACE/ETHNICITY	CITIZENSHIP				Total
	U.S. Native	U.S. Naturalized	U.S. Perm. Visa	Other Visa	
American Indian	10	1	0	0	11
Row Percent	90.9%	9.1%	0.0%	0.0%	100.0%
Column Percent	.5%	.7%	0.0%	0.0%	.5%
Asian	18	47	23	17	105
Row Percent	17.1%	44.8%	21.9%	16.2%	100.0%
Column Percent	1.0%	32.2%	21.9%	48.6%	4.9%
Black	18	2	2	2	24
Row Percent	75.0%	8.3%	8.3%	8.3%	100.0%
Column Percent	1.0%	1.4%	1.9%	5.7%	1.1%
Hispanic	7	3	5	2	17
Row Percent	41.2%	17.6%	29.4%	11.8%	100.0%
Column Percent	.4%	2.1%	4.8%	5.7%	.8%
White	1783	89	73	14	1959
Row Percent	91.0%	4.5%	3.7%	.7%	100.0%
Column Percent	96.8%	61.0%	69.5%	40.0%	92.1%
Other Race	6	4	2	0	12
Row Percent	50.0%	33.3%	16.7%	0.0%	100.0%
Column Percent	.3%	2.7%	1.9%	0.0%	.6%
Total	1842	146	105	35	2128
Row Percent	86.6%	6.9%	4.9%	1.6%	100.0%
Column Percent	100.0%	100.0%	100.0%	100.0%	100.0%

Table 6.7.1

ACADEMIC RESPONDENTS
according to WORK SPECIALTY and INSTITUTIONAL TYPE
1987 Survey of ACS Members

WORK SPECIALTY	ACADEMIC EMPLOYER						Total
	High School	Medical or Prof School	AA Degree	BS Degree	MS Degree	Doctorate	
Chemical Engineering	2	3	0	2	7	67	81
Row Percent	2.5%	3.7%	0.0%	2.5%	8.6%	82.7%	100.0%
Column Percent	1.7%	1.4%	0.0%	.5%	3.3%	6.9%	3.9%
Biochemistry	3	108	1	31	32	165	340
Row Percent	.9%	31.8%	.3%	9.1%	9.4%	48.5%	100.0%
Column Percent	2.5%	50.2%	.8%	7.8%	14.9%	17.0%	16.6%
General Chemistry	67	1	68	79	18	37	270
Row Percent	24.8%	.4%	25.2%	29.3%	6.7%	13.7%	100.0%
Column Percent	55.4%	.5%	53.5%	19.8%	8.4%	3.8%	13.2%
Agricultural/Food Chemistry	0	2	0	3	1	29	35
Row Percent	0.0%	5.7%	0.0%	8.6%	2.9%	82.9%	100.0%
Column Percent	0.0%	.9%	0.0%	.8%	.5%	3.0%	1.7%
Analytical Chemistry	1	6	7	62	26	106	208
Row Percent	.5%	2.9%	3.4%	29.8%	12.5%	51.0%	100.0%
Column Percent	.8%	2.8%	5.5%	15.5%	12.1%	10.9%	10.1%
Clinical Chemistry	0	15	0	1	1	7	24
Row Percent	0.0%	62.5%	0.0%	4.2%	4.2%	29.2%	100.0%
Column Percent	0.0%	7.0%	0.0%	.3%	.5%	.7%	1.2%
Environmental Chemistry	2	6	3	5	3	42	61
Row Percent	3.3%	9.8%	4.9%	8.2%	4.9%	68.9%	100.0%
Column Percent	1.7%	2.8%	2.4%	1.3%	1.4%	4.3%	3.0%
Inorganic Chemistry	5	2	8	37	20	83	155
Row Percent	3.2%	1.3%	5.2%	23.9%	12.9%	53.5%	100.0%
Column Percent	4.1%	.9%	6.3%	9.3%	9.3%	8.5%	7.6%
Materials Science	0	2	0	1	4	24	31
Row Percent	0.0%	6.5%	0.0%	3.2%	12.9%	77.4%	100.0%
Column Percent	0.0%	.9%	0.0%	.3%	1.9%	2.5%	1.5%
Medicinal/Pharmaceutical Chemistry	1	30	1	3	3	30	68
Row Percent	1.5%	44.1%	1.5%	4.4%	4.4%	44.1%	100.0%
Column Percent	.8%	14.0%	.8%	.8%	1.4%	3.1%	3.3%

Table 6.7.1 (Cont'd)

WORK SPECIALTY	ACADEMIC EMPLOYER						Tota
	High School	Medical or Prof School	AA Degree	BS Degree	MS Degree	Doctorate	
Organic Chemistry	2	9	16	91	55	146	319
Row Percent	.6%	2.8%	5.0%	28.5%	17.2%	45.8%	100.0
Column Percent	1.7%	4.2%	12.6%	22.8%	25.6%	15.0%	15.6
Physical Chemistry	8	7	3	63	30	135	246
Row Percent	3.3%	2.8%	1.2%	25.6%	12.2%	54.9%	100.0
Column Percent	6.6%	3.3%	2.4%	15.8%	14.0%	13.9%	12.0%
Polymer Chemistry	1	0	0	4	3	33	41
Row Percent	2.4%	0.0%	0.0%	9.8%	7.3%	80.5%	100.0%
Column Percent	.8%	0.0%	0.0%	1.0%	1.4%	3.4%	2.0%
Other Chemical Science	8	5	4	2	1	17	37
Row Percent	21.6%	13.5%	10.8%	5.4%	2.7%	45.9%	100.0%
Column Percent	6.6%	2.3%	3.1%	.5%	.5%	1.7%	1.8
Business Administration	0	1	2	2	3	12	20
Row Percent	0.0%	5.0%	10.0%	10.0%	15.0%	60.0%	100.0
Column Percent	0.0%	.5%	1.6%	.5%	1.4%	1.2%	1.0%
Other Non-Chemistry	21	18	14	14	8	40	115
Row Percent	18.3%	15.7%	12.2%	12.2%	7.0%	34.8%	100.0%
Column Percent	17.4%	8.4%	11.0%	3.5%	3.7%	4.1%	5.6%
Total	121	215	127	400	215	973	2051
Row Percent	5.9%	10.5%	6.2%	19.5%	10.5%	47.4%	100.0%
Column Percent	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0

American Chemical Society

OFFICE OF THE
EXECUTIVE DIRECTOR

1155 SIXTEENTH STREET, N.W.
WASHINGTON, D.C. 20036
Phone (202) 872-4600

February 24, 1987

Dear Colleague:

Each year the American Chemical Society studies the economic status of the U.S. chemical profession by surveying a sample of ACS members. You are one of about 25,000 members I am asking to participate in this survey, conducted under the aegis of the Joint Board-Council Committee on Economic Status. This year, the ACS will conduct a special study of the economic status of member chemical engineers. This year's sample, therefore, includes more than the usual number of chemical engineers.

Because a high response rate is needed to assure accurate results, your participation is an important service to our colleagues. Please take a few minutes now to complete the questionnaire and return it in the enclosed business reply envelope. The procedure is confidential, and the information you provide will be reported only as a part of aggregated data.

Findings will be reported to ACS members in several ways. Preliminary results will be presented at the spring meeting in Denver; early in the summer, the ACS will publish detailed analyses as Salaries 1987. At about the same time, Chemical and Engineering News will publish a cover story on the salaries and employment status of chemists and chemical engineers.

Please feel free to use the back of the questionnaire for whatever comments or suggestions you might care to make.

Thank you for your assistance.

Sincerely,

John K Crum

John K Crum

Encl.

AMERICAN CHEMICAL SOCIETY

1987 Comprehensive Salary and Employment Status Survey

I. EDUCATION AND EMPLOYMENT STATUS

A. PLEASE INDICATE THE YEAR IN WHICH YOU EARNED ANY OF THE FOLLOWING DEGREES:

Bachelor's	19 __ __	1-2
Master's	19 __ __	3-4
Doctorate	19 __ __	5-6

B. PLEASE CHECK THE APPROPRIATE BOX IN EACH COLUMN.

	Field of highest degree	ONE specialty most related to your current or most recent job	
Chemical engineering	☐ 01	☐ 01	
Biochemistry	☐ 02	☐ 02	
General chemistry	☐ 03	☐ 03	
Agricultural/food chemistry	☐ 04	☐ 04	
Analytical chemistry	☐ 05	☐ 05	
Clinical chemistry	☐ 06	☐ 06	
Environmental chemistry	☐ 07	☐ 07	
Inorganic chemistry	☐ 08	☐ 08	
Materials science	☐ 09	☐ 09	
Medicinal/pharmaceutical chemistry	☐ 10	☐ 10	
Organic chemistry	☐ 11	☐ 11	
Physical chemistry	☐ 12	☐ 12	
Polymer chemistry	☐ 13	☐ 13	
Other chemical science	☐ 14	☐ 14	
Business Administration	☐ 15	☐ 15	
Other Non-chemistry	☐ 16	☐ 16	7-10

C. Were you unemployed at any time during the calendar year 1986?
No ☐ 1 Yes ☐ 2 11

If yes, how many total weeks were you not employed and actively seeking employment during calendar year 1986?

__ __ weeks (ENTER A NUMBER FROM 1 TO 52) 12-13

D. PLEASE ENTER YOUR PRIMARY EMPLOYMENT STATUS AS OF MARCH 1, 1987. CHOOSE THE ONE CATEGORY THAT BEST FITS YOUR SITUATION.

Employed full-time (35 hours or more per week)	1
Employed part-time	2
Postdoctoral or other fellowship	3
Not employed but actively seeking employment	4
Not employed and NOT seeking employment	5 14

G. If you were UNEMPLOYED on March 1, how long had you been unemployed?

Less than 1 month	1
1 to 3 months	2
4 to 6 months	3
7 to 12 months	4
More than 1 year	5 15

H. If you were EMPLOYED on March 1, what are the first three digits of the zip code where you work?

__ __ __ 16-18

II. QUESTIONS ABOUT YOURSELF

A. Your sex:
Male ☐ 1 Female ☐ 2 19

B. Your marital status:
Single ☐ 1 Married ☐ 2 20

C. Age at last birthday before March 1, 1987:

__ __ years old 21-22

D. Citizenship or visa status:

U.S. native	☐ 1	
U.S. naturalized	☐ 2	
U.S. permanent resident visa	☐ 3	
Other visa	☐ 4	23

E. Race or ethnic group:

American Indian or Alaskan Native	☐ 1	
Asian or Pacific Islander	☐ 2	
Black (not of Hispanic origin)	☐ 3	
Hispanic	☐ 4	
White	☐ 5	
Other race or ethnic group	☐ 6	24

F. Please enter the two-letter post office abbreviation for the STATE in which you live.

__ __ 25-26

IF YOU ARE NOT CURRENTLY EMPLOYED, PLEASE SKIP TO SECTION IV, MOST RECENT OR CURRENT JOB.

III. CURRENT INCOME

A. If you are CURRENTLY EMPLOYED, how long have you worked for your current employer?

__ __ years __ __ months 27-30

B. BASE ANNUAL SALARY from PRINCIPAL JOB as of March 1, 1987. (DO NOT INCLUDE payments for bonus, second job, overtime work, summer teaching, or other supplemental earnings or employment.) If zero, please indicate. If on a 9 or 10 month contract, report the 9 or 10 month salary rather than an annualized salary.

$ _____ per year 31-36

C. TOTAL PROFESSIONAL INCOME during calendar year 1986. (INCLUDE consulting fees, base annual salary, income from second job, bonuses, payments for overtime, summer teaching, and other supplemental earnings.)

$ _____ per year 37-42

D. If you are currently employed, does your employer pay your ACS dues?
Yes ☐ 1 No ☐ 2 43

IV. DESCRIBE YOUR CURRENT OR MOST RECENT JOB.

IF YOUR CURRENT OR MOST RECENT EMPLOYER IS NOT AN ACADEMIC INSTITUTION, GO TO SECTION V AT THE TOP OF THE NEXT COLUMN.

CURRENT OR MOST RECENT EMPLOYMENT IS IN AN ACADEMIC INSTITUTION.

A. Current (or most recent) principal employer.

1. Public institution ☐ 1 Private institution ☐ 2 44

2. High school ☐ 1
   Medical or professional school ☐ 2
   College or university where the highest degree offered in chemical science is:
   - Associate ☐ 3
   - Bachelor's ☐ 4
   - Master's ☐ 5
   - Doctorate ☐ 6 45

B. Your academic rank:

- Full professor ☐ 1
- Associate professor ☐ 2
- Assistant professor, tenure track ☐ 3
- Instructor, lecturer, or non-tenure track ☐ 4
- Non-teaching research associate ☐ 5
- My institution does not have ranks ☐ 6 46

C. Have you been granted tenure?

Yes ☐ 1 No ☐ 2 47

D. Your basic contract is for a period of:

- 9 or 10 months ☐ 1
- 11 or 12 months ☐ 2 48

E. About what fraction of your total academic year assignment is devoted to:

	1/4 or less	1/3	1/2	2/3	3/4	full-time	
Teaching	☐	☐	☐	☐	☐	☐	49
Research	☐	☐	☐	☐	☐	☐	50
Administration	☐	☐	☐	☐	☐	☐	51
Other	☐ 1	☐ 2	☐ 3	☐ 4	☐ 5	☐ 6	52

F. What was your principal professional activity during the SUMMER OF 1986?

- Teaching ☐ 1
- Funded research or study ☐ 2
- Unpaid scholarly/academic ☐ 3
- Administration ☐ 4
- Consulting ☐ 5
- Non-academic employment ☐ 6
- Other ☐ 7 53

THANK YOU. YOU HAVE COMPLETED THE QUESTIONNAIRE. PLEASE USE THE BLANK SPACE ON THE BACK OF THIS QUESTIONNAIRE FOR COMMENTS.

V. CURRENT OR MOST RECENT EMPLOYMENT IS NOT IN AN ACADEMIC INSTITUTION.

A. Current (or most recent) principal employer.

- Self-employed ☐ 01
- Private industry
  - Non-manufacturing ☐ 02
  - Manufacturing
    - Basic chemicals ☐ 03
    - Specialty chemicals ☐ 04
    - Agricultural chemicals ☐ 05
    - Biochemical products ☐ 06
    - Coatings and paints ☐ 07
    - Electronics ☐ 08
    - Food ☐ 09
    - Glass, ceramics ☐ 10
    - Paper ☐ 11
    - Petroleum/natural gas ☐ 12
    - Pharmaceuticals, personal care ☐ 13
    - Plastics ☐ 14
    - Rubber ☐ 15
    - Soaps, detergents, surfactants ☐ 16
    - Steel or ferrous metals ☐ 17
    - Other metals, minerals ☐ 18
    - Other manufactures (specify) _____ ☐ 19
- Government
  - Federal (civilian) ☐ 20
  - State or local ☐ 21
  - Military ☐ 22
- Other non-academic
  - Hospitals, independent laboratory ☐ 23
  - Non-profit organization, other research institution ☐ 24
  - Other employment ☐ 25 54–55

B. Check the ONE work function that best describes your job.

- Research and Development
  - Management or administration of R&D ☐ 01
  - Basic research ☐ 02
  - Applied research, development, design ☐ 03
- General management, administration (other than research and development) ☐ 04
- Marketing, sales, purchasing, technical service, economic evaluation ☐ 05
- Production, quality control ☐ 06
- Forensic analysis, other laboratory analysis ☐ 07
- Writing, editing, abstracting ☐ 08
- Chemistry information services ☐ 09
- Computer programming, analysis, design ☐ 10
- Consulting ☐ 11
- Other ☐ 12 56–57

C. Were you eligible for a bonus during calendar 1986?

Yes ☐ 1 No ☐ 2 58

D. Did you receive a bonus during calendar 1986?

Yes ☐ 1 No ☐ 2 59

IF yes, please indicate amount

$_____ 60–64

VI. LEVEL OF RESPONSIBILITY:

Please examine the statements within each of the four groups (Duties, Technical Decisions and Recommendations, Supervision Received, and Supervision Exercised) and, within each group, check the box of the statement that most closely corresponds to your responsibility on the job.

A. Duties:

- I receive on-the-job training working on simple projects or assisting more senior staff ☐ 1
- I perform responsible and varied assignments within projects ☐ 2
- I plan, conduct, and coordinate projects of some complexity ☐ 3
- I undertake long-term and short-term planning and supervision of projects. I make decisions on work programs and have budgetary control of projects ☐ 4
- I have full managerial responsibility for a function with full responsibility for the operation of a budget and long term planning ☐ 5 65

B. Technical Decisions and Recommendations:

- I am responsible for minor technical details only, all other matters being checked ☐ 1
- I am responsible for technical detail which is reviewed overall ☐ 2
- I am responsible for technical matters but am subject to occasional review ☐ 3
- I have full technical responsibility for projects ☐ 4
- I am responsible for all technical matters including the delegation of responsibility ☐ 5 66

C. Supervision Received:

- My work is assigned with detailed instructions, guidance being always available. My results are subject to close scrutiny ☐ 1
- My work is assigned in terms of detailed objectives and priorities, guidance being available on problems and unusual features. My work is subject to scrutiny ☐ 2
- My work is assigned in terms of general objectives and priorities, guidance being available on policy or unusually complex problems. My work is reviewed for effectiveness only ☐ 3
- My work is such that I receive executive instruction on broad overall objectives and it is reviewed only for its general effectiveness and adherence to policy ☐ 4
- My work is unsupervised, other than I comply with the policy decided within the governing body ☐ 5 67

D. Supervision Exercised:

- I have no authority but may give technical guidance to juniors working on the same project ☐ 1
- I have no managerial responsibilities for qualified staff but may be assigned graduates, technicians, or other juniors as assistants from time to time ☐ 2
- I supervise a group of qualified staff, technicians, and other employees. I assign and review their work. I can recommend on the selection, discipline, rating, training, and perhaps rate of pay ☐ 3
- I am responsible for leaders of groups containing qualified staff, technicians, and other employees. I give guidance on policy and complex technical matters delegating responsibility for discipline, rating, training, and rates of pay ☐ 4
- I have full control over senior staff who are in turn responsible for groups of qualified staff and other employees ☐ 5 68

THANK YOUR FOR YOUR PARTICIPATION.

PLEASE RETURN THIS QUESTIONNAIRE TO
ACS STATISTICAL SERVICES,
Room 202, 1155 16th Street NW, Washington, DC 20036

ACS OFFICE OF STATISTICAL SERVICES PUBLICATIONS

Salaries: The Office of Statistical Services annually surveys the ACS membership, gathering detailed information on member chemists and chemical engineers. The reports based on this survey contain statistical tables describing the respondents' employment status, employer, work function and specialty, salaries, and demographic characteristics.

Reports are available for each year from 1973 through the current year. In 1987, four separate reports are available: *1987 Salaries of Non- Academic Chemists. 1987 Salaries of Non-Academic Chemical Engineers. 1987 Salaries of Academic Chemists.* and *1987 Employment Status and Demographic Characteristics of ACS Members.*

Starting Salaries: The Office of Statistical Services also surveys new graduates in chemistry and chemical engineering each summer, and publishes reports detailing the graduates' employment status, post-graduation plans, starting salaries, and other employment and demographic characteristics.

Reports are available for each year from 1975 through the current year.

Professionals in Chemistry: The *Professionals in Chemistry* series compiles information concerning chemists and chemical engineers from ACS, government, and private industry sources. It details information on demography, employment, salaries, education, and supply and demand for the entire chemical profession.

Reports are available for each year from 1975 through 1978, and combined reports for 1979-1980, 1981-82, 1983-84, and 1985-86.

Special Reports:

1975 Report of Chemists' Salaries and Employment Status Supplement: Economic Status of Women in the ACS.

Women Chemists 1980: A supplemental report on the ACS's 1980 Survey of Salaries and Employment.

Women Chemists 1985: A supplemental report on the ACS's 1985 Survey of Salaries and Employment.

For prices and ordering information, please call or write:

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